

FROM SCHOOL TO COLLEGE

SAEED RASHID

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Author	Prof. Saeed Rashid
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In December 1932, when Allama Iqbal was staying at Queen Ann's Palace in London in connection with the Third Round Table Conference, a group of Muslim research scholars from Aligarh and Lahore called on him and sought his advice about their research work. The Allama sat up in his bed and very earnestly said, "Writing a thesis just for the sake of getting a degree, is not of much use. Collect knowledge as well as create knowledge. That is what required in the interest of the nation."

Dedicated

To

The young people committed to creating knowledge in one form or the other in the interest of Pakistan.

FOREWORD

Mr. Saeed Rashid has been on the staff of Military College, Jhelum, a prestigious institution, for over a quarter of a century. In this sheltered and disciplined atmosphere, he had the advantage of witnessing and helping the growth of carefully selected youngsters into well groomed candidates for leadership in the Armed Forces of Pakistan. The process seems to have convinced him early in his teaching career that flowering of an individual as a personality requires guidance beyond and above the call of the prescribed curricula.

Full realisation of the potential for growth and attainment of maturity demand awareness regarding the importance of emotional, moral and motivational factors in addition to the intellectual development. Unfortunately these areas do not receive the attention they deserve either in our teachers' training programmes or policies of schools and colleges. Mr Saeed Rashid has taken upon himself the challenging task of not only drawing attention to the sadly neglected aspect of our educational system, but has also produced suitable material for the use of teachers and students.

As Director of Research and Development Cell, Military College, he has helped to shape the policies of this institution regarding growth needs of students on scientific and psychological lines. This approach needs to be made more widely known in other educational institutions in the country.

The challenge of total education presents a vast canvas. Mr.Saeed Rashid has decorated it with some broad brush strokes.

Large vacant areas are still there waiting for others to join the effort and build up a comprehensive picture of a mature and a well rounded personality for the guidance of the youth of the country. If educationists fail to provide suitable channels for personal growth, the spirit of adventure runs the risk of leading the inquisitive minds into the dark alleys of social and moral degradation. We owe it to our youth to guide them to the proper path. Mr. Saeed Rashid has put up in this book a large number of pointers in the right direction.

Laeeq Mirza Ph. D
National Institute of Special Education
Islamabad

Islamabad
February 14, 1988

PREFACE

Dear Young Reader,
God bless you!

Now you are on your marks. A marathon raçe for a career, is going to start. The stakes are so high that win you must. There is no other ôption. Just none! And I may remind you, this race is ruthlessly competitive. There is no room for indifferent running. You have to run and run fast enough to touch the tape stretched across the finish-point first. Besides, this is entirely your own race. You have to do all the running, from the start to the end all by yourself. Nobody else, however near and dear, can do the running for you.

This book 'From School to College' is just a sign post along the route, a light-house on top of a rock, to say, "This way, please", and warn you here and there, of the possible perils of the perilous course.

My dear young man!

You are starting your long journey in search of light. College is your first stop. I wish you god-speed in your new venture. Take the oars and go ahead, to strive to seek, to find and not to yield.

Yours Sincerely,
The one who takes you as the
future hope of Pakistan.

At the end, I am obliged to put in a word of thanks.

I'm grateful to Dr. M. Laeeq Mirza for writing a very thought-provoking introductory Foreword to this volume. Very kind of him. I earnestly hope this humble effort may inspire some educational intellectuals to carry the theme forward.

Saeed Rashid

Military College Jhelum

23rd March 1988

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PART 1

FROM SCHOOL TO COLLEGE COMPARISONS AND CONTRASTS

How will college be different from high school? Actually college education is a continuation of the best of your high school education, for higher education builds on the foundations of secondary education though it does go beyond it. However there are certain vital differences. Good education at any level ought to promote the development of individual personality, make one aware of social obligations and moral commitments and develop the capacity for reflective thought.

But higher education should impart something distinctive with respect to these goals, in the way of higher levels of understanding and skills. Your curriculum ensures this at the mental level. But in your mid and late teens, you are in the whirlpool of psychological changes too. In the school, you were satisfied with following the crowd, in the college, you will learn to cherish independence of thought and action. In the school you may have accepted the values and attitudes of a teen age culture while in the college you will find yourself accepting more adult values and patterns of behaviour. This would be a positive movement towards attaining social and mental maturity.

Non-academic interests may have seemed the most satisfying last year in the school, but now intellectual curiosity and the satisfaction of it in a constructive manner should be your primary goal. This is the true meaning of mental development.

In the college, there is much less spoon-feeding and much more freedom than there was in the school; but there are many

more interests, all competing for your time and energy. Many a college student eventually ends up in not achieving anything worthwhile and having totally wasted both his precious time and energy. The answer is in developing the ability to sift essential from the non-essential. In the college, you are usually hard pressed for time because so many new and often conflicting demands are pressing you more or less all the time.

Finally ponder over the following questions and provide your own frank answers:

a. Are you in the college because your parents want you to be here? or

b. Because there was no other choice open to you?

c. Have you any idea what college education should do for you in addition to giving you a profession or a career?

d. Is a career the be-all and end-all of education?

e. Do you have a sense of direction and can you distinguish it from drift?

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The self-image is the golden key to success and heppiness.

COLLEGE EDUCATION
A Privilege and a Challenge

Even in the most advanced countries where literacy is universal, college education is highly selective. It is available only to those who are found fit and willing to profit from it as it is, by its very nature, expensive in material and human resources. A nation is great and strong in proportion to the quality of its education, especially that of college and university education. So in any country of the world, it is the privileged and the talented few who ever get a chance of receiving college education.

In Pakistan where the percentage of literacy is still one of the lowest among the developing countries (less than 30%); college education is a precious commodity and those who manage to obtain admission into a college are indeed among the most privileged minority in the country.

The real significance of college education rests on self-development. Without an honest progress in this respect, marks are a poor indication of achievement.

No amount of parental understanding, guidance or college assistance can take the place of the student's own hard work, responsiveness and courage-courage to explore zestfully and think independently.

Socrates maintained that a complacently secure life, a life lived without challenges, without courage-the unexamined life, was not worth-living.

Examination, especially candid self-examination requires courage - courage to know one's strong and weak points. Ask yourself: "What are my best points and my worst ones? What are my personal assets and liabilities?" Ask yourself these questions not once, but many times and have a frank dialogue with yourself. No student will be able to do every thing that is asked of him equally well and must learn from the beginning to sacrifice the lesser for the greater good. Know your area of strength and further strengthen it to gain confidence and recognition. But do not despair or blame others for your handicaps or for any mishap.

From courage grows insight, the capacity for reading into oneself and others beyond the merely showy, illusory surfaces. A great educationist once observed: "Higher education is a means of leading one to know the difference between oneself as an individual and as a person". Take a note of this quotation and ponder over it. You would appreciate it when you grow mentally maturer. The same writer says: "Ask what do I think and then, what can be thought? Only thus can you place the emphasis not upon your reason but upon *reason, not upon yourself but on your kind.* Such insight cannot be wholly self-generated. It derives in college from the healthy inter-action of books, ideas and people.

Of course, the main business of the college is to impart knowledge, so you should be prepared to respond vigorously, enthusiastically, steadfastly, to the intellectual content of the college life.You should make full use of all the opportunities and resources available to you.

You ought to be willing to give of yourself liberally in time, patience, industry and energy. For diverse minor problems,

you will be rewarded with unified breadth of conception; and for occasional loneliness and distress, you will reap a lifetime of satisfaction.

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Our own unconscious evaluation of ourselves is our self-image.

Self-image is unconsciously built up from our beliefs about ourselves, from our past experiences in life, the successes, the failures, the humiliations, the triumphs, the way other people have dealt and interacted with us, particularly during the early childhood.

COLLEGE EXPECTATIONS

What do we expect of you? What is our image of a mature young man? These are questions worth your consideration. You should clearly understand what kind of behaviour is considered evidence of maturity by the college, the standard by which we are going to judge your conduct and behaviour.

All this will not be done at random. We have a yardstick. We have seven-items on check-list to assess your progress in education, in general.

1. The first check-item is Worry: How much does a student worry and about what? The student is a high achiever by this test of maturity if he comes to worry about more important things than when he entered the college. We are going to commend right worries far more than complacency.

2. The second is Disagreeing: Does the student disagree a great deal with whom and in regard to what? To some extent we are inclined to prize a student's capacity to dispute intelligently, to protest rationally and to challenge logically even if this makes him a somewhat uncomfortable person to have around. It is the quality of man's critical capacities not his ability to get along at any cost which marks his approach to maturity.

3. Doubt: Next we want to find out whether you have genuine doubts about yourself, the nature of this world, the purposes which you should seek to fulfil in your life?

Easy self-assurance and care-free attitude is an indicator of

immaturity rather than maturity. Genuine faith and confidence is of great value but faith, possessed merely as a matter of habit and comfortable rationalization, hardly qualifies as a mark of maturity.

4. Self-discovery: We would like to ensure if the student has begun to uncover his strengths, his limitations, and what he is all about? Remember, self-discovery is the first step towards self-development.

5. Sharing of Purposes: The ability of a student to perceive the dovetailing of his aspirations with those of others is important. The mature individual can recognize the necessity of cooperative endeavour and adjust his interests so as to bring them into harmony with the interests of others. A college student must be able to look beyond the narrow range of his own immediate self-gratification and accept as a powerful obligation those purposes which tend to unite men. He must be able to leave the jungle of competitive individualism and find his way into close and purposeful relationship with his follow human beings starting from class and college fellows.

6. Increased Social Responsibility: Is the student willing and able to undertake responsibility for the well-being of his own immediate community, of his nation and of human community at large? Does he willingly assume tasks which do not yield an immediate personal reward? How ready is he to make and then stand by hard decisions?

7. Human Feeling: What is the evidence in the actions and words of a student revealing his compassion, his courage at resisting injustice and his fundamental respect for others?

Let it be clear to you that we are as vitally concerned with your achievement on tests of maturity as with your achievement on tests of academic proficiency.

We eagerly hope that you would respond by a gradual adjustment of your previous attitudes and values to meet the new challenges.

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All our actions, thoughts, feelings, emotions, reactions and even circumstances have to be consistent with our self-image.

The self-image can be changed at will. It is never too late to start a new life.

WHAT COLLEGE CAN DO FOR YOU

The purpose of this book is to help you understand what a college is for and to help you clarify your own objectives and thinking about what you want to do, the kind of a person you want to be and somehow to bring these two, the college and your goals, together.

Clarify your own purpose first. What did you come here for?. What is the immediate purpose and what is the long-range purpose? These are the crucial questions that have to be answered candidly. Only by understanding what your purposes are, is it possible to make this connection between you and the college possible.

Perhaps you have no clear idea of your long-range objectives. You are concerned with your immediate goal which is to somehow scrape through the examination and qualify for a career that you have set your heart on. This is your vocational goal. There is nothing wrong with it. One of the aims of college education is to prepare you for a vocation. But that is not the end of the story but only the beginning. College education is much more than preparation for a vocation. This is what we believe in. Hence, though we are as much interested in your immediate goal as you are, we are also interested in your ultimate good and in the quality of life that you will live as a civilized, well-developed individual. True education is preparation for life, the life of a cultivated human being and eventually a Muslim and Momin as portrayed by Iqbal. This is our ambition. We are concerned with your total education for total life. In the main, we want you to learn three things.

First comes knowledge. It starts from academic learning but goes much beyond the narrow limits of laid down curriculum in Science or Arts.

There is a comprehensive body of knowledge that each of us ought to acquire. It encompasses rudiments or fundamentals of both sets of sciences, natural as well social, including religion. But we must move from information to understanding, from understanding to insight and from insight to values. That completes the tiers or steps of ideal education.

So first we want you to obtain as much knowledge as possible so that it may blossom into general understanding and insight. According to Albert Einstein, one of the greatest scientists the worlds has ever produced, "the development of general ability for independent thinking and judgement should always be placed foremost, not the acquisition of special knowledge." To this end the mental skills of reasoning and thinking critically and analytically must be cherished as the proper aim of college education.

But knowledge and insight will be of no real use if you fail to develop human qualities. Spirit is more important than anything else in a human being. So a third vital purpose of education is the humanization of individuals. We would like you to develop a value pattern, a set of moral standards, deeply embedded in your soul.

In sum, our intentions are to bring about some changes in you, to widen your horizon, to help you become a better person than what you already are. Whether or not we are successful, depends a great deal on you. It depends upon whether or not you

seize these opportunities that the college is presenting, whether you have any clear vision of how you wish to direct your life.

The college has to provide the learning environment; the responses which are required if learning is actually to take place, are by and large yours.

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Self-image is the base, or the foundation on which is built one's entire personality.

It is our subconscious mind that controls our habits, attitudes, behaviour, performance and indeed our potential.

Self-image is a subconscious picture, no amount of effort on the conscious mind can change it. Only when there is a change on the subconscious level, that there can be a change in behaviour, attitudes or performance.

SOME ADDED ADVANTAGES

The college student has to learn how to spend his time. A good student attends classes regularly, does his preparation everyday and studies industriously because this is his prime goal. But there is even more, much more to be gained from college, if one is keen enough to recognize the extra opportunities which exist. So be on the look out for such opportunities.

These are at least four 'extras' which are available to an alert student. The first is knowing college professors as people. Few experiences are more rewarding than conversations with informed teachers about the ideas they cherish and the values they hold. For a person of college age, such experiences are education by themselves.

The second 'extra' of the college life is attending the special events at the campus - speeches, plays etc. The purpose of college education is to lead on, to lead out, to take people where they have not been before. A judicious sampling of student-arranged intellectual activities is the third 'extra' opportunity. A fourth 'extra' is reading unassigned books and magazines; a visit to the library is a thing of never-ending wonder and excitement.

Everyone has the same twenty-four hours but each person spends his twenty-four hours differently. If one integrates these opportunities into his twenty-four hours, he will in effect be getting double college education, while others are getting only one.

Residential institutions of Public School type provide another invaluable opportunity in the form of House System which

is a miniature form of self-government.

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'A hundred times every day' I remind myself that my inner and outer life·depends on the labours of other men living and dead, and that I must exert myself in order to give in the same measure as I have received and am still receiving.

Albert Einstein

TOTAL EDUCATION

Education is not a prescribed amount of knowledge passively collected plus some skills indifferently acquired. The real test of education is not merely the passing of examinations and securing a career. It is much more than that. Education is for self-fulfilment, for self-development, and for attaining mental, social and emotional maturity. Education is preparation for life, for better, happier and creative life. Real education, is total education for all aspects of life, and for the whole life. Education or learning goes on side by side with life. It is one with life. School and college education is only formal groundwork for the life-long process of growth and learning for self-education unto death.

You are in the college for a round of total education. Nobody, no power on earth can give you total or even partial education if you do not actively want it. In fact, education is a very personal affair. It is for you and by you. Only a fraction of it, the text book part of it, will be tested in the examination hall; the rest of it will be tested in the arena of life and this test will continue for the rest of your life, long after when you have forgotten the names of the text books and even the names of the teachers. Therefore,the informal part of your education, will in the long run prove to be more enduring and valuable than the formal content.

Elements of Total Education: Physical fitness comes first. Your body is made of tissues composed of billions of cells and is subject to the physical laws of growth and decay. Keeping a hundred percent fit, fighting fit, should be your first concern. To stay in a condition of top fitness and continue growing until

maturity is reached in full, you have not only to take proper regular exercise, but also be very careful of your food, rest, sleep and general living habits. You must conserve your nervous energy and must not over-consume it. Avoid over-stimulation of your basic emotions. Pituitary gland placed at the back of your brain controls your physical growth as well as the reproductive glands. If you stimulate your emotions and passions too much, the growth process will be slowed down and the reproductive glands activated prematurely. Consequently you will not be able to concentrate fully on your studies. Your mind cannot concentrate on two things at a time. If you are emotionally disturbed, going through the throes of anxiety, or day-dreaming, your attention span will be shortened and your mental powers be curtailed. So observe the rules of mental hygiene too. Go through a book on Physiology to find out how your body is built and how it functions. The study of an elementary book on Biology and one on human behaviour (Applied Psychology) will also do you immense good at this stage of your life.

Mental Development: The raw material of mental development is knowledge. Both the quantity of knowledge as well as the quality of knowledge matter. The portion of basic knowledge covered by the curriculum is the minimum required. You cannot afford to rest content with it. Knowledge provided by text books is the base for your life. If you are interested in an enlightened intellectual life, you will have to broaden this base to a great extent.

The collection of knowledge is the first step towards its use, its interpretation and application to concrete life situations. If you are not able to apply your knowledge to everyday thoughts and

actions, your acquisition of it will be of little use to you or to society.

This is only possible when you actively participate in the process of learning. Do not depend solely on the teacher, but also intensify your efforts to learn. Seek his help by all means in removing doubts, in clarifying difficult points and receive guidance from him, but do not accept his clarifications blindly without examining them yourself. In other words discover the facts for yourself.

From 'learning to learn' you will be but one step from 'learning to think' which is the hallmark of a civilized, educated mind.

Life is getting more and more complex. Knowledge gets outdated very soon. New knowledge, new experiences and new insights are demanded to tackle the increasingly complex problems of life, so you have to learn not only now but all through your active career at least.

In addition to learning to learn and learning to think, you have to learn some basic skill too. The skill to communicate properly both in speech and in writing though not easy to acquire, is an indispensable requirement. As responsible adults, much of your success in your career and social life, will depend on your ability to speak persuasively and impressively and to write good and correct English and Urdu. Writing is also an instrument of thought. You can not write clearly unless you think clearly. So learn to write precisely and logically. This particular skill also has an immediate advantage. Most of your examinations now and in

the years to come will involve writing essay-type answers. So why not acquire proficiency in this mode of expression. Most learning is done by reading books. So the ability to read rapidly and well must also be developed. Most of the college students read far too slowly and badly. They should make concerted efforts to improve their reading habits in respect of both speed and comprehension. Listening is another source of learning. In this sphere, deliberate practice is required so that you draw maximum advantage from the lectures. Moreover, it is a mark of a good man too.

Social and Moral Development: This is the third area of concern in the pursuit of total education and in a way the most important one. Your worth and value as a human being will eventually be determined by what you do with your healthy body and developed mind to humanity at large. To grow socially and morally has not been very easy for mankind. Man has most spectacular achievements to his credit in the physical world, but in dealing with social and moral problems he has flopped badly.

So your task in this sphere is going to be both a demanding affair and a rewarding venture. In the last analysis, only a good man is a happy man and only a good man is a respectable man. Honour goes with Taqwa (understood in the Quranic sense).

For the time being, you can set yourself some social and moral goals that are quite attainable. Develop proper attitudes to work and discipline. Acquire proper values. In inter-personal relationships be kind, considerate and compassionate. Enjoy doing good to others rather than receiving favours from others. Above all, you have to develop a deep sense of commitment to your family, your college, your community and to your country.

Finally, be always grateful to God for all that He, in His infinite mercy, has blessed you with.

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Our self-image is of utmost importance because we can not be any more effective, more successful, better coordinated, more creative or more anything other than what our self-image says we are. Self-image is the ceiling on the effectivess with which we can use our future potential.

Self-image controls our entire potential, such as intelligence, capability, attitudes, performance, will-power, effort, ingenuity, aptitude.

THE FOUR DIMENSIONS OF KNOWLEDGE

'O, Creator! give me more and more knowledge,' so prayed the Holy Prophet to God as revealed in the Holy Quran and the first word of the first revelation to the Prophet Muhammad (peace be upon him) was: "Read in the name of the Creator who created you." So knowledge can not but be our chief concern. And knowing or learning is a life-long process. We want you to learn and to keep on learning for the whole of your life. But what will you learn? What branches of knowledge must a man master if he is to be truly knowledgeable? Those who are knowledgeable and learned have propounded the idea of four studies for man:

a. The study of the world into which we are born is designated as the study of natural sciences, encompassing such branches of knowledge as Mathematics, Biology, Chemistry, Physics, Geology, Astronomy etc.

b. The study of people amongst whom we are born. This study is covered by social sciences which deal with all aspects of human creativity and human experience.

c. The study of man himself. The study of man is a study of his body and his mind, of his abilities and disabilities, of his strengths and weaknesses, of his mental anguish and his physical pain, his conscious and his unconscious mind, of his integration and unavoidable disintegration. The biological sciences including psychology fall into this branch of human

knowledge. The tree of knowledge bears the knowledge of good and evil alike. A great mathematician or physicist or chemist may use his knowledge to benefit his fellow men but he can also use his power to harm other human beings.

d. Knowledge in all its branches is of the greatest importance for the development of man, but only if he recognizes a unifying principle for his creative ingenuity. This is the fourth dimension of human knowledge. Its main concern is with the moral and spiritual purposes of life which alone can give true meaning to human knowledge without conflicting with the three branches of knowledge. On the contrary it integrates the knowledge man has accumulated through centuries of living and thinking. It provides an ideal for all the inventions and discoveries of human mind.

Only after we succeed in integrating the four dimensions of knowledge, can we hope to build a creative society full of creative individuals.

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Life is a whole
Luck is a whole

Churchill

YOUR MIND

The greatest miracle in the world is the human mind. Nobody fully knows the secrets of mind or what it is and how it functions. However the following facts about mind might help you in preparing for any examination:-

1. Mind has a physical basis. Its seat is human brain.

2. It is made of about 10 billion neurons (cells) set at birth.

3. Stimulating environment can clearly affect the growth of brain cells.

4. The brain's capacity can be modified unfavourably as well as favourably by how we live, by our life style.

5. Mind grows by exercise (use) and decays by disuse, a process called atrophy (if you do not use the whole of your mental powers fully, intensely and regularly, the chances are that they will become gradually and progressively weak).

6. Brain cells deprived of sufficient oxygen do not perform their work efficiently and the intellect and the reasoning power fade as a result. Conversely mental alertness improves when larger amounts of pure oxygen are delivered to the brain-cells.

7. A programme of regular exercise which increases oxygen transport to the brain through natural processes can

significantly improve mental performance.

8. Work however long and intense does not wear you out. In fact it gives your mind strength, if you are interested in it, if it gives you satisfaction.

9. Each period of stress, especially if it results from unsuccessful struggles, leaves some irreversible chemical scars, which accumulate to constitute the signs of tissue decay. Successfully activity, no matter how intense, leaves virtually no scars.

10. Work wears you, not play. If you like your task however intense, it is play for you, it will not cause chemical scars which result in wear and tear of tissues.

SOME OBSERVATIONS ON MIND

William James, the father of modern Psychology, has observed, "We make use but of a small part of our mental resources.". Alexander Hamilton wrote:-

"All my genius lies in this when I have a subject in hand, I study it profoundly. Day and night it is before me. What people are pleased to call the fruit of genius is the fruit of labour and thought." Also recall to mind the famous definition of genius by Edison i.e. 'It is nine tenth perspiration and one tenth inspiration.'

CONCLUSIONS

1. Our mental resources are immense.

2. But man's characteristic feature is not his brain power. It is his will to work.

3. We can improve our mind. We can develop it to a very high degree by exposing our mind to stimulating influences, by stretching it, by actively using it, by thinking deeply, by constant creative mental activity.

4. Mind grows slowly. Mental development follows its course. It takes time. It has its own laws. You can not stuff it. You can not develop it overnight. You can not overstretch it either. You can not learn in two weeks what was to be learnt over a period of two years.

5. Mind grows from inside. You can not super-impose growth on it. It has to blossom on its own. Hence mental development lies in its activity. In a state of passivity the mind does not grow. If you want to learn better, let there be more mental activity.

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We live in deeds, not years, in thoughts, not breaths;
In feeling, not in figures on a dial
We should count time by heart throbs.
He lives most
Who thinks most, feels the noblest, acts the best.

THE QUESTION OF I.Q.

I.Q. means intelligence quotient; an index of a person's inherent mental capacity.

What is I.Q.?

A child's mental capacities improve each year as he goes through infancy, childhood and adolescence. Just as a child's physical body grows and develops from year to year, so does his intellect which means his mental capacity, his ability to use his brain, to solve problems, to reach decisions and to discern meanings. It is this mental capacity that increases from year to year until the approximate age of twenty. By this age, normally a person's brain arrives at full development and thereafter his mental capacity does not increase. He can still keep on learning; he can store away more facts; he can learn to profit by experience and thus to exercise better judgement; but his actual mental capacity does not improve beyond this age.(Some psychologists say it does).

The intelligence quotient is determined by dividing the mental age (determined by means of standardized tests) by the chronological age, the birthday age and again multiplying it by 100 for example:

I.Q. is an expressive way of evaluating a child's progress towards mental maturity by comparing his mental age with his physical age. I.Q. only indicates one's inherent capacity for learning not the actual level of one's learning. A person may use,

to full advantage, his capacity for learning or he may use only a fraction of it, but in no case can he exceed the limit of his personal capacity. Within reasonable limits, we do not need to be concerned over the differences in I.Q. between one person and another, for neither is using his mental powers to his full capacity. Two pupils, one with a higher I.Q. than the other can, under most circumstances, accomplish the same things. The person with the lower I.Q. may have to work a little harder than the other, but their total accomplishment may be equivalent.

Is I.Q. the *Key* to Success? Other factors being equal, a person with higher I.Q. has an edge over the one with lower score. The former, having a greater capacity for learning, can learn more easily and can reach higher intellectual attainments, if he wills, than the person with a lower mental capacity.

But simply possessing high I.Q. does not itself, guarantee higher accomplishments. In the human personality reside two other factors even more important to success in life than high I.Q. determination to succeed and willingness to put in necessary effort. Without these, even the person; with high mental capacity will fail in life's adventure. But with determination and willingness to expand himself even a person of mediocre I.Q. can make his mark in the world.

I.Q. does matter. But the other two factors are more important.

(Adapted from Trends in Modern Psychology)

WANTING TO LEARN

The Question of Motivation

Nobody can make a football player play football if he is not motivated to do so. Similarly the learner will not do the learning effectively if he is not motivated to do it. What is motivation? To be motivated is simply to want something strongly. Motivation means an urge to move in some direction to satisfy that want. It is a goal directed activity. You won't learn better if you do not have a strong desire to learn. And where will this desire or urge come from? "From you, from your mind, of course." Once you are convinced that you need better learning to secure better life for you in future, you would feel a strong urge to start learning actively and seriously. It is a question of adjusting your short-term and long-term goals in life. Most people childishly want to get the best out of life without giving their best to it. Wishing so is childish because it amounts to unrealistic thinking which can not bear fruit in the world of cause and effect.

You will be motivated to start learning earnestly if you make up your mind on following points:-

a. Your long-term goal in life is to live a life whose quality should be very high. In terms of career, it should be a successful and respectable life securing high social, economic and moral status for you.

b. Such a life can be had the hard way, for which you will have to develop your mind and character to the highest possible degree.

c. To ensure that development, you have to lay the foundation of motivated learning assiduously.

d. Remember that all learning is an active process. It is only you who can do it and do it only by actively participating in the process of education. Receiving knowledge passively won't do. Cramming won't help. Short-cut to knowledge won't avail. You can scrape through the examinations and get promoted to the next class with the minimum pass marks i.e. 33 out of 100 but having one third of knowledge may cost you a battle tomorrow as a commander. So do not take your formal education lightly. Aim high and put your heart and soul together into this channel. By all means keep your short-term goals in view, but do not lose sight of the long-term goals either. Make a habit of thinking ahead, looking far into the future as far as possible and adjust your speed and quality of work accordingly.

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In many ways we send singnals to people, which in effect, ask them to treat us the way are see ourselves. If we change this picture of ourselves every one will start treating us accordingly.

THE PROCESS OF LEARNING

What is the process of learning? How do we learn, what happens to your mind and in your mind engaged in solving a very complex problem. At this stage you need not go into the technical intricacies of the process of learning as a motor driver need not know all about the details of motor-mechanics. But he should know its mechanism in general terms i.e. how it works, what makes it go and go better and when it does not why it does not do so. Similarly you had better remember the following points about the process of learning:-

a. Learning is a mental activity-a goal directed activity. It has a purpose. It aims at satisfying a need. Hence you cannot learn if you are not motivated i.e. if you do not want to learn.

b. Learning is not a single action. It is a chain of tiny actions in the brain. It is a process.

c. Learning has a basis. New learning grows out of the previous learning, the past experience. New ideas can come from the old ideas of the same kind in the mind.

d. The more you know, the more experiences you have, the more you have learnt already, the easier it is to learn new things on that basis.

e. Learning is conical or pyramidal in structure. The more complex and, broader the base of previous

experiences the better the new learning.

f. Learning starts from dim impressions of a new thing. These impressions later change into clear mental pictures in the light of past learning. The more difficult a piece of study, the longer it takes to be understood.

g. Understanding comes at the end of a long chain of mental actions. You start with the collection of information or ideas about a thing. Ideas change into knowledge and knowledge as a result of mental activity finally takes the shape of understanding of some thing new, which is the completion of the process of learning.

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Behaviour is entirely dependent on self-image.

The data in the sub-conscious mind governs the self-image and the self-image controls our effectiveness.

Self-image is one of the greatest discoveries of this century. We carry with us the blue print or the picture of ourselves.

HOW TO LEARN BETTER

The capacity to learn is not found in the same measure in all human beings. Some people learn more quickly, and are better in quality too i.e. they can think of new things etc. But most of us are mediocre in this respect. We have an average capacity to learn. However difference in the actual results of learning of different people is mostly ascribable to factors other than their inborn capacity to learn:-

1. The will to study comes first.

2. You have to build up a broad base for advanced learning. Exert your mind to the utmost. Go to the sources of knowledge direct. Collect relevant knowledge drop by drop like a honey bee.

3. If you are learning a language, make extensive use of dictionaries, reference books and source books. Build up an extensive vocabulary. If it is a second language, master its structural patterns (grammar) too. In studying literature, attend to its appreciation.

4. While studying science subjects, you have to adopt a pyramidal approach. You can not make any head-way, if you have not fully understood the fundamentals of that subject.

5. Some otherwise quite sharp boys, do not do well at science subjects. They say they have no aptitude for science. Who has? This is a fallacy (false thinking) in most cases.

Courses up to the Intermediate level do not call for any special aptitude for any subject. All boys and girls of average intelligence can do it only if they so will. It is not a question of aptitude either. It is a problem of attitude or of motivation. Boys who have character and personality problems usually suffer from poor motivation, from poor application to work and it is quite possible that they may not have built a proper base earlier for the new learning at the Intermediate level.

6. It has been proved experimentally that you learn better if you split up a task- a learning unit, a chapter into manageable sections, each with its own clearly defined goal.

7. If you have criteria for self-assessment of achievement, it will immensely help you.

8. There is also a need for continual periodic assessment of your work by your director of studies (subject teacher). You should make a note of your mistakes of various kinds.

9. Spaced practice is immensely useful.

10. Concentrated attention to the task in hand and the requisite mental stamina are a must in all learning.

11. You learn better if you go over the learned material again on an increasingly longer time scale. If you do not revise at regular intervals, the past learning will fade out.

THE NEED FOR SIGNIFICANT LEARNING

Have you ever participated in a sports competition? How is a winning team in football prepared? Those who are capable of playing the match and winning it, are organized into a team under a captain, and a coach starts coaching them intensively. The players are subjected to severe regimen. From food to living habits, everything is controlled. Social engagements are sacrificed. Physical strain mounts, the practice goes on unabated. Nobody minds austerity and hardwork. Nobody objects to rules. None grumbles. In fact the harder the practice, the more it is relished. The objective i.e. winning the match, is clearly set. Every member of the team, eagerly wants to play the game to the best of his skill. Each one of them wants its, values it and enjoys doing so.

This football-learning is an ideal example of effective learning situation. What are its ingredients?

a. Every player in the first place keenly wants to play.

b. Every one values playing.

c. Every one enjoys playing. It's a very, very satisfying experience for him.

In the language of Educational Psychology, each player is keenly motivated from within by drives that lead him to intensive application to the task he has assigned to himself-football-learning. Learning in this case exemplifies self-drive towards competence in a self-chosen activity with self-satisfying as well as socially

approved results. The player chooses to play and willingly undergoes a most exacting regimen because he likes it, values it.

Academic learning demands the same approach. Its ingredients are the same. Wanting to learn, liking to learn, enjoying to learn, are the prerequisites of significant learning. A self-motivating, self-starting, self-propelling eagerness for learning is the hallmark of the process.

Human beings like to do what they value, what satisfies them. Learning is connected with a sense of value. If the student feels that no value or benefit will accrue, his efforts to assimilate a particular piece of learning will lose zest. It is impossible to separate the two. Learning and valuing are in reality two facets of the learning process.

So the problems of learning are really the problems of valuing. Valuing sports is much easier. A direct satisfaction of some basic emotions is involved in it. Valuing the learning of natural or social sciences is possible only when this sort of mental activity-learning, is as deeply satisfying to the individual as football playing is to the ardent player. A college student is mature enough to scrutinize his values and readjust them into a new pattern of priorities. It is the duty of the community, of the parents and of the teachers to see that the young people come to value what is really valuable.

On account of this emotional aspect of learning, the teacher has to concern himself with how the student feels about what is offered to be learnt. If the feeling is negative, the learning will be negligible.

So the student's own interest, his own feeling is the real moving force behind whatever academic learning he carries out in the college. It should therefore be the responsibility of college students to consciously plan their learning efforts and increasingly reduce their dependence on detailed direction. A system in which enhanced responsibility is thrown on the individual student should be encouraged. Besides, more individual exploration of intellectual interests and less reliance on detailed supervision from instructors and examining-bodies should be there and more effort ought to be made to appreciate the growth resulting from a student's own initiative and the credit for it is to be given.

The Content of Learning: What is to be learnt? What else is required in addition to formal curriculum in which the students are examined?

A wit once observed: "The real education is that which remains after we have forgotten what we have learned." What is forgotten is in fact formal curriculum and what remains is the pattern of altered attitudes, values, habits and loyalties which become built-in the student. This may be called generalised or residual learning. If the quality of what remains, is poor,it means significant leaning has not taken place.

Residual learning should be the nucleus of some life outlook or philosophy which helps to integrate material and spiritual substance in life. It should include a capacity for affection that yields consideration and compassion to human relations, a sense of sharing in social relations to the extent that one assumes some productive degree of civic and economic responsibility and awareness of an exemplary rectitude or nobility of character that

stirs one to emulation. Moreover, this significant residual learning should also include aesthetic, appreciative power without which life will be dull and drab.

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The key to human personality and behaviour is the self-image. If our self-image is altered, our behaviour and personality are effected by the change.

It we choose to make changes in our self-image, we can use positive imagination to create a new subconscious picture of ourselves.

LEARNING TO LEARN I

"Practice makes man perfect." (Bacon)

Perfection can not be attained in any complex human activity without practice. But mere practice however intense is not enough. There are circumstances when much practice will produce either very little learning or none at all.

There are two types of learning:

(a) Incidental learning
(b) Intentional learning

Mere reading with no intent to learn would produce learning after eleven times as many trials as would be required if the intent to learn was consciously present.

The presence of the intent to learn is a prime requisite for effective learning. Any kind of motivation that keeps us conscious that we are seeking to increase our efficiency is likely to be helpful. Competition which encourages us to compare our own performance with that of others is an especially good device for establishing and maintaining a strong intention to learn.

Another important supplement to sheer practice is an understanding of the task before us. Students frequently underline what they consider important in the text. But too often they underline almost every line.This indicates that they have not made clear to themselves the exact nature of the task. They hope that they will learn enough, but they do not think over the nature of the lesson. If they did, they would not give equal importance to so many items. They would see the relation of the parts to the whole

and see the logical structure. A student reads books in order to acquire information. But he is likely to learn little, unless he constantly raises in his own mind the question as to what is important and therefore worthy of special attention and what is unimportant and therefore a proper subject for neglect. Rarely, indeed, does one have reason to learn all that is in a book.

But unless one decides on rational grounds what one wants to learn, one will acquire only a few scattered fragments of information which, because of their lack of logical coherence, will soon be forgotten.

Learning a lesson by going over it again and again while looking at the printed page is not an efficient learning method. One will learn more quickly if one is forced to go through the process on one's own. If the performance of a certain task, in actual practice, involves the temptation to make some errors, then it is a desirable thing at least as part of the practice, to expose the person to some of the errors. In complex skills, learning consists quite as much in weakening the wrong acts as it does in strengthening the right ones.

How to Approach a New Book: Begin by reading the entire book as rapidly as is comfortable. This will give one a reasonably accurate idea of the general framework, which in most cases is fairly simple. Then one can go back to the text and pick out and emphasize to oneself the essential ideas. An initial perspective can often be gained by reading the first and the last chapters and then proceeding to the middle ones.

Especially in the case of informational learning, a principal

cause of inefficiency lies in the fact that the first impression is not adequately supplemented. Forgetting proceeds very rapidly for material that has been just barely learnt. Immediately following reading, there is swift evaporation of a considerable part of what has been learnt. The application of this principle is simple.The first time to reinforce impression and to cut off the normal process of rapid disintegration is, as soon as possible, after the first impression.

Method of Reinforcement: There are two important methods of reinforcement. In the case of material that has been read, we may simply turn back to the printed pages and read them over again or we may attempt, by our own efforts, to recall what we have read.

In most instances, the latter is by far the more effective procedure. It may be well to check the correctness of one's recall by referring to the printed page, but this should be done only after the effort to recall has been made. One reason for the difference between these two methods of reinforcement is to be found in the fact that the second involves the kind of use that one will ultimately want to make of one's knowledge in the examination hall to start with. Therefore, the sooner the knowledge is put to such active use, the better adapted it will be to that purpose.

Another important feature of reinforcement through active recall is that one is forced to put his whole attention upon the facts involved. If one simply reads and re-reads, one's rehearsals are likely to become half- hearted. Skills which involve adjustments among muscular movements are not so easily forgotten as is newly acquired information. It is nevertheless important that each lesson

be followed by a reinforcing practice and that the practice be of the best kind.

Conditions of Most Efficient Learning: How long is one to practice at one time and how frequently is one to repeat the practice sessions?

The best distribution of practice varies for the act or material being learned. Unless we are dealing with a very complicated act or a very large body of material, it is better to go through the task as a whole. If, for example, one is trying to learn a speech which is to take an hour for delivery, it would surely be better not to curtail the single learning period to less than a half hour. The same principle would probably hold for considerably longer units of material. In other words, if the task to be learnt has any real unity, it is best to preserve that unity by going through the task as a whole rather than through part of it at one session and another part at another session. There are of course limits to this rule.

Later in the learning the interval may be increased without harm and sometimes with actual advantage. In the main, muscular habits do well with considerable periods between rehearsals, while ideational habits such as poems and language lessons require earlier repetitions for the best results.

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LEARNING TO LEARN 11

The unifying objective of college education is learning to learn. In the school, more attention was given to the products of learning namely, knowledge. In college the focus should be on the process by which you learn to think critically and the emphasis on your own involvement in the educative task. Therefore, the tendency to place too great reliance on knowledge alone to the neglect of values should be resisted.

To learn to keep on learning is the most significant outcome of education. What evidence can you find that you and your classmates are achieving this goal? What behavior do you think characterizes persons who seem to have developed an insatiable curiosity towards greater learning?

Personal Library:A good student borrows books when he has to; he buys them when he can (although it is not easy to do so these days). Nothing is more natural than the desire to own a useful or delightful book, to keep it on a private shelf, to mark it up if need be. The habit of buying and reading books in the clearest characterisation of an educated person, whether in or out of the college. It is a habit a genuine student will cherish as long as he has life.

Thinking and Communication: Thinking and communication, both in speech and writing, are intimately connected. Only when you have expressed yourself, only when you have communicated your thoughts, can you be sure that you are thinking clearly. If you have not thought out clearly you cannot express yourself clearly, especially in writing.

Writing is more than an instrument of communication; it is an instrument of thought. You should have acquired some competence in it by now. If you have not, acquire this skill now, otherwise you would not be able to profit much from college education. One of the basic objectives is to learn to communicate clearly and effectively. Ask new questions, look for new answers and communicate them to the world.

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Low Performance

Something is always bothering them, they are hesitating and withdrawing most of the time. They feel that they are lacking in something and not worthy of respect.

They do not trust themselves nor do they trust others.

They are pessimistic people, they always see difficulty in every opportunity.

IMPEDIMENTS TO LEARNING

Learning is by you and for you. When effective learning does not take place, there must be a block or blocks in the process; an emotional difficulty or certain attitudes which work against the full achievement of the intellectual goal of college. Some of the common blocks are listed below:

Could-not-care-less Learner: Some college entrants develop negative attitude for a variety of complex psychological reasons. They enter the lecture-hall saying to themselves: let us see who can teach us. There is a good percentage of such students even in prestigious colleges. Eventually they fade out but before they do so they are a constant nuisance to everyone except their cronies.

Utilitarian Learning: Some students have an extremely narrow concept of education. They are willing to invest their time and energy only on those aspects which promise fairly immediate practical dividends e.g.marks, promotions etc. Such students would not let the teacher do good teaching and the quality of their learning suffers too.

Self-complacent Learner: Some entering college students have a false notion of their ability. Because they had got away with very little real hard work and concentration in their high school years, they grow self-complacent; so they flaunt a casual attitude inside and outside the class-room and do not cooperate with the teachers.

Passive Learner: Another type of bad learner is actually a keen type unequipped for the college level. He sits in the class with rapt attention and tries to note down indiscriminately whatever the teacher utters. He assumes a totally passive role. He seldom raises his voice and never raises an issue.

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Low Performers

They have negative outlook on life. They are always talking more about problems and seem to be less concerned with their solutions.

They are looking for others to be blamed for their own failures.

They are looking to the past for guidance and suppopt. They rely on past solutions to the problems of the future.

SOME BASIC SKILLS

* Reading effectively
* Listening attentively
* Thinking critically

Rapid, Effective Reading: The relationship of good reading skills to success in college is primary. Unfortunately in high schools pupils are generally not taught to read effectively and rapidly. Due to the great bulk of reading required of the average college student, speed is of vital importance; but he is normally not used to it. The student who plods through all sorts of reading material at a very slow pace (about 100 words a minute) will undoubtedly lag behind another who can average twice as many words and boost his speed to cover even more sometimes, depending on the material read.

Contrary to common belief, a rapid reader is likely to be a better reader too for the simple reason that he can more closely follow the evolving pattern of the thought and evaluate it better. The reader who splits a simple idea covering three or four sentences into 40 or 50 words or worse still 150 to 200 syllables, erects barriers for himself inhibiting speed as well as comprehension.

Training-even intelligent self-training, can go a long way to retrieve the situation. Here is an exercise:

To loosen up the rigid patterns of reading developed earlier, force yourself for 15 minutes a day to read some piece of relatively easy non-fiction much more rapidly than is comfortable for you and check up comprehension by recalling to your mind the

points made in it. Do this exercise for a month and you will find the difference. You will achieve flexibility.

The value of deep or intensive reading cannot be questioned. But the habit of broad reading has its own obvious advantages. Reading fiction or a newspaper/magazine of popular interest with the same rapt attention that you give to a Physics book, amounts to wasting valuable reading time and energy. There are many occasions even during the reading of a serious book, when you should skip certain portions of it and go on.

The Concept of Pre-reading: To study a text book chapter, the technique of pre-reading can be usefully employed.

Attack a text book chapter in three successive steps, each built on the preceding one, knowing how the chapter ends.

Instead of plodding laboriously for two hours from the beginning to the end, of say a 24-page chapter, you should spend, to start with, about 15 minutes in pre-reading the chapter, making a rapid survey, noting the title, heading, sub-headings and observing the general lay-out. You should read only the first and the last paragraphs, the opening sentences of the paragraphs and bold-type phrases, if any. Then, on the basis of this survey, you should ask yourself questions which you hope to be able to answer at the next reading.

The second reading, of say half an hour, involves some effort to isolate key ideas. Scan all the paragraphs rapidly and form more sharp and deep questions for the third reading.

Finally take your own notes and try to answer or discuss all

the questions normally given at the end of the chapter. If you are reading it as preparation for the next day's lecture, make a separate note of the points you want to concentrate on and the questions you would like to ask of the teacher.

Ability to Listen Attentively: In good educational institution some effort is made for the development of three skills of communication viz, reading, writing and speaking through oral and written expression; but listening is hopelessly neglected as a skill requiring systematic and controlled practice. Active listening in fact calls for more concentration and interest than reading. It also involves an outgoing, sympathetic regard for others and a genuine desire to hear what others have to say. In a lecture-room, effective listening requires not only keen eagerness to follow the theme of the lecture but also proper perspective. You can only listen well when you have done some background study earlier. Hence the urgent necessity of preparing the topic of the lecture before it is delivered by the teacher.

Thinking Critically: Purposeful thinking, like purposeful reading, demands making a sharp distinction between what is important and what is not. College work prompts the student, through the essay-type questions to relate concrete detail to general principle. Such a relationship provides a structure necessary to the assimilation of facts and ideas. Without the power and training to think clearly, no such pattern is possible.

SOME FACTORS OF SUCCESSFUL STUDY

1. **Will to work comes first.** Without intense interest in your study, you can not make much headway. You have to take a long range view of your exerting for the present. As has been pointed out by an eminent writer, "Man's characteristic feature is not his brain power. It is his will to work."

2. **Life style is another important factor.** Your mind is influenced favourably or unfavourably by your life style - by how you live, by your character and conduct, by your interests and inclinations. If you want to be a good student. you will have to take to a life-style which best suits a student. And there is nothing peculiar about this condition. A champion athlete has a life-style which is quite different from the life-style of, say, a painter. Self-discipline is a must for a student. For example, to win a tournament match a hockey player concentrates his whole attention on the game, he can not think of even listening to a sweet song while he is playing.Similarly study demands your full attention and full interest. Half-hearted efforts only produce indifferent results. So as a student you have to take to a way of life which is conducive to successful study. Adjust your priorities likewise; friendships, loves, hobbies, recreations, have to be pushed back to the secondary place in the scheme of things.

3. **Due ambition is your due.** You must cultivate a desire to excel; a desire to achieve something great in some field of life.Each individual is unique. He can definitely do some thing better than others, which will bring him honour and recognition. Whatever your ambition, the way to its fulfillment goes through your education. So you must have a clear idea of your aspirations.

Learn to link your future successes in life to your present academic pursuits.

4. **I can I will.** You must also have faith in your own ability to achieve your goals and you must have confidence that you would actually do it. As William James pointed out, "We are making use of only a small part of our mental resources".

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We are here not to play, to dream, to drift
We have hard work to do and loads to lift
Shun not the struggle it's God's gift.

CURIOSITY - THE WATCH-WORD

In college,the watch-word is curiosity-curiosity to know, to find and to discover. Knowledge is the business of college, not knowledge passively acquired and assimilated in the form of predigested information, but genuine knowledge that has to be collected and digested as a honey bee collects and digests nectar.

Curiosity is the mainspring of knowledge and college experience tells you how to utilize and capitalize this instinct of curiosity. Curiosity is in fact at the heart of all scientific discoveries and inventions.

The accumulation of information is, of course, a necessary part of scholarship, and unfortunately the part most likely to be tested in the examination. But genuine curiosity cannot be satisfied by mere passing of examinations or memorizing other people's answers to other people's questions. That is not true education. Learning to think and following your thinking while making difficult decisions is the main thing which you are here for.

Moreover, if you learn anything, it ought to change your mind, otherwise you would have wasted your time in college.

Curiosity expected of you in college will be more than a passing interest. Your teacher will not be satisfied by your ability to ask an occasional bright question then relapsing into a prolonged spell of passivity. He would be far happier as a genuine teacher if you develop a never-changing questioning posture, taking nothing for granted and challenging fixed ideas and conceptions and pet theories. If you discover the truth before believing in it, you would

believe in it in the true sense. The teacher is not there to foist his own ideas on you or help you imbibe the ideas of others, but to help you have your own ideas and at the same time develop the capacity of examining the ideas of others including those found in books.

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Low Performers

They have no clear goals nor do they have positive ambitions.

REPRODUCTIVE LEARNING VS CREATIVE LEARNING

(From a question - answer session at a Study Circle meeting)

Teacher: One of the main reasons for lack of creativity and creative thinking, barring exceptions, even among our educated elite, is that the teaching and learning done even at college level, is mostly reproductive, not creative. Moreover, the conventional examination system encourages, rather compels the teachers and the students to do reproductive teaching and learning.

Q. Sir, what do you mean by reproductive and creative teaching and learning? What is the difference between the two processes?

A. Reproductive teaching concentrates on mere passing on the information contained in the narrow confines of the syllabus.

Q. Isn't it the requirement?

A. It may be the requirement of the exam but the requirement of education is much more than passive dissemination or assimilation of information. What is really required is knowledge, understanding, and ultimately, insight. Nothing short of that. And to achieve that end, teaching must go into the depth of the subject, must provoke thinking on the part of the students so that they understand the concept involved or the social, cultural, and political aspects of the piece of literature under study. Creative teaching is

thoughtful and thought-provoking. It stimulates the depth study of the subject. It is comprehension orientated. The real test of creative teaching lies in initiating creative learning.

Q. What is creative learning and in what respect is it different from reproductive learning?

A. The difference is real. It is qualitative. In reproductive learning the learner rests satisfied with passive acquisition of minimum possible information and skills with the sole intention of mere passing the examination largely by rote. He is not intellectually involved in the process of learning. Hence he does not understand the concepts involved. His information never develops into knowledge. He never learns to learn, to think, and consequently he is not able to utilize knowledge in solving new problems, which is the primary purpose of education.

Q. How to do creative learning?

A. You have to be intellectually and emotionally involved in the process of learning. Learn actively; learn to learn. Go straight to the sources of knowledge yourself. Use as much source material and reference material as possible. In humanities group of subjects, do as much extensive background study as possible. Use divergent thinking approach. Ask questions, pose question, analyse, reason, go into details. Ever-growing awareness of the subjects and the life, is the final test of creative learning. Of course, creative learning very much depends on creative teaching.

But even if the teaching is stereo-typed, conventional, or reproductive, the student can make up some of the deficiency by his own efforts.

Q. As you observed earlier, there is conspicuous lack of creativity and critical thinking even among our educated elite. Are there any special causes for this state of affairs other than the ones within the educational system.

A. Yes, the socio-economic situation does not encourage thinking, particularly the divergent thinking. In fact there are very potent forces that militate against intellectual freedom. Actually there is no climate of 'thinking' and the level of awareness has not yet been reached that sustains creativity and creative thinking. So in education too convergence is the order of the day and it is understandable. Bertrand Russell in 'Education and Social Order', points out that every social order has its corresponding educational system. Our educational system is no exception to that.

Yet there is definitely some room for initiative for the enterprising teacher and keen student to follow the creative approach in teaching and learning.

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If you think you are beaten, you are
If you think you dare not, you don't
If you like to win, but think you can't
It is almost certain, you won't
For out of the world we find
Success begins with a fellow's will
It's all in the state of mind.

THE COLLEGE CLASS-ROOM

The college class-room is the chief device for bringing the teacher and the student together in close communication. The college teacher is not the text book that speaks. He is a critic and interpreter of text books or syllabi which serve only as the basis for take-off. He brings out all his scholarship to bear upon the topic under discussion. The student must sharpen his listening skills in order to derive full benefit from lectures. It is only then that "mind can speak to mind within a climate of personal dialogue".

Communication or dialogue is not possible unless the student actively joins the quest for understanding and prepares his mind to do so before hand.

The student is an associate of the teacher in the adventure of learning. The degree to which you engage yourself in the class-room activity will determine to a large extent, the value you will receive from instruction. Moreover this opportunity to enter into a serious discourse with your instructors and fellow-students under controlled conditions is one of the chief values of the class-room situation. If a student engages himself more directly in the learning process, he indirectly encourages creative teaching by his teachers. Hence the student not the teacher is the key figure in the teaching-learning situation.

Creative Teaching:How Can a Student Help? If the student holds high expectations of the teacher both as a man and as a teacher, and also of himself as a man and a student, he helps to build a climate of expectations. It is not easy to lecture to an

unexpectant audience. A class of students with low hopes for the Course, for the instructor, for themselves as students, makes little demand for the instructor's maximum response. A student can help by hard work and by the kind of concerted effort which engenders new interests, arouses new enthusiasm and begets intellectual curiosity. Unless mind can speak to mind within a climate of personal dialogue, creative teaching-learning situation not possible. Thus a student is very much an indispensable, though a junior partner, in the adventure of teaching.

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Low Performers

They are selfish, insecure, inconsiderate and unhappy people.

ON READING BOOKS

One of the experiences that makes the deepest impression on any youth is the experience of going to college. It is there that the civilized man is fashioned and it is there that thinking begins. In a civilized society there is no more noticeable difference than that between a thoughtful and an unthoughtful person. In fact the distinguishing quality of any human being is the quality of his mind.

Nothing brings about this change better than reading books. The ability to read a book is like the ability to listen; it implies a mind that is disciplined to receive and entertain ideas. The good listener not only knows how to use his mind; he knows how to change it, which is more significant.

College is the time when we are not merely expected to change, but required to change and it is the book that changes us the most. The students will listen to their teachers, but they have had their other teachers too, the books, by which their intellects were formed. Books are in the line of ever lasting teachers from which the human race has got its education.

Books stretch the mind, the most elastic thing a human being possesses. The student who forms the habit of letting this experience happen to him will never lose it, though he may exercise it less in later years. You will have to attend the classes and listen to the lectures and participate in debates and discussions. These are essential to college education and no substitute for them has ever been found, yet reading books, whether the student buys or borrows them, is just as essential. Its peculiar feature is that it

is done alone, at his own chosen time when the student is his own master, bent upon cultivating a mind that is uniquely his. This mind is of course, all the time engaged in a rivalry with other minds which their owners are cultivating at the same time and place, for a college has many good minds in it.

Students are competitors as well as peers. It is a race for creative happiness, not mere triumph. From the habit of reading, a very important by-product emerges: the student who reads well, learns to write well. There is a close correlation between these two.

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Some books are to be tasted, some to be swallowed
and some few to be chewed and digested.

Bacon

PART II

THE BOOK IS NOT EVERYTHING

Emerson said, "only so much, I know as I have lived". Carlyle observed: Compared to life itself, books are triviality.

John Lock regarded experience as the foundation and repository of all knowledge. Socrates never allowed his knowledge or his reading to have priority over the unfailing touchstone of experience.

No book can enable us to know everything that is to be known or feel everything that is to be felt. A book is a part of life, not a substitute for it. It is not a fit subject for worship or enshrinement. It loses its charm and much of its value when accepted uncritically.

A good book is a supple and yielding thing. It is meant to be argued with, challenged, marked-up. It is a battle ground for ideas. It can never replace needed action or thought, nor can it become the be-all and end-all of a balanced and productive life.

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The data in the sub-conscious mind governs the self-image and the self-image controls our effectiveness.

SENSE OF PRIORITIES

(From a question-answer session at a Study Circle meeting)

Principal: There is a thought-provoking piece of verses:

Life's battles don't always go,

To the stronger or faster man;

But soon or late the man who wins

Is the man who thinks he can.

No doubt thinking, the will to win, makes a lot of difference. But I have to make another observation which is no less valid. My life long experience of teaching spread over forty years, tells me it is not always bright boys that do well in the Examination Hall or outside.

Q. Then which ones do better?

A. More often than not I have seen that the target of academic excellence is better achieved by a category of students of average I.Q. or mental calibre. They also score better on the test of social responsibility.

Q. What are the characteristics of this category of students? What is the secret of their doing better?

A. The secret lies in their sense of priorities. The students that have better and stronger sense of priorities do better at all tests, exams, and interviews and other things being equal, it is they who mostly reach the top in their chosen career or profession.

Q. What do you mean by a sense of priorities?

A: A student in his teens, particularly in late teens, is pulled in different directions by his passions, psychological pressures, and educational obligations. At that stage, he is a live wire, an overflowing reservoir of energy. In this state of his body and mind, if he can draw the line between his wants and needs and consequent upon that awareness, is able to place his long term needs in order of their relative value or importance before his immediate and more pressing wants and desires; this process in called setting the priorities right. Mind you, in setting the priorities right, the awareness of ends and means is a vital factor. Once the priorities are set right, a new life style emerges; a new sense of purpose and direction takes control of one's living habits and study habits; discipline ceases to be any problem. In fact, in the life of a purpose-oriented student or G.C., there is no room left for any form of indiscipline, irregularity, casualness or indifference to educational and social obligations. Hard work automatically flows, and concentration comes on its own as there are no tensions, or conflicts inside. As a result of all this, efficiency increases and out-put of work, both quantitatively, and qualitatively improves. Hence it is no wonder that his academic and social performance is exceptionally good.

Q. Do you mean to say that only the mediocre can develop a sense of prorities? Is being bright a handicap?

A. Not at all. I did not say that. The mentally bright and talented students that are able to develop a sense of priorities, do far batter than their mediocre counter- parts because they have the added advantage of superior intellect. When talent is carefully nurtured, the result is simply superb. Those who do exceptionally well in any field of human endeavour, are definitely the ones that are both highly talented and possess an equally high sense of priorities. When I said the mediocre with a high sense of purpose, do very well, I meant to say that the mediocre students who are in majority, need not feel constrained or handicapped by being mediocre. What matters is the sense of priorities which can off-set any shortfall.

Q. Does temperament play any part in the attainment of academic excellence or social responsibility?

A. Yes, it does to some extent. It has been observed that the students of balanced disposition and stable temperament concentrate better on studies, can work harder and longer. Consequently they produce better results and prove to be more responsible and dependable. Of course, geniuses are an exception. To sum up, one could say: awareness is all which sets the priorities right.

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SENSE OF COMMITMENT

Commitment literally means engagement, involvement. You are committed to your own development and betterment. Your parents are committed to you. They are actively concerned with your welfare and well-being. Their concern is shown in ways more than one. They won't spare themselves any sacrifice when it comes to safeguarding your interests.

These are examples of a sense of commitment which is instinctive or built-in in all living beings. One does not have to learn it or develop it. It is a part of human nature, it is not an educational aim. It is not a value.

One of the cardinal aims of higher education is the development of the sense of commitment in full. You feel as much concern for others as you do for yourself in a progressively widening circle. Starting from home, you care for your parents, brothers, sisters and relations. Gradually the circle goes on enlarging encompassing friends, community, country and eventually humanity as a whole.

You may be a bright student, an ambitious young officer, or a highly talented, capable, exceptionally well qualified person, you may well be a genius. All these qualities and achievements will give you power and privileges for yourself, but they would not make any real difference to the rest of the world as like a highly competent doctor, the best of his kind, who wants only to make money out of his skill and experience does not command the respect and love of his patients and their relatives. Would you respect a teacher who grudgingly teaches you in the class-room

because he is paid for it, who does not go out of his way to benefit his pupils and who has no sense of commitment to you and through you to the college and to the community? Would you honour a mercenary officer who joins the Army only because this is the shortest route to wealth and power and who displays no sense of commitment to his country in peace and war?

It is not that only teachers, doctors and officers have to be committed, and the rest of the people-workers, traders, bankers, landlords, capitalists and industrialists-can afford to go without it. Nobody can. All of us must care for others and for the country.

How much committed do you think you are? Is your sense of commitment progressively growing with the increase in your knowledge? What evidence is there that your seniors have a greater sense of commitment than you have? What is the general state of commitment in the country? Do you think our journalists, writers, politicians or film-producers have a real sense of commitment? If not, what socio-politico economic structures are responsible for this state of affairs ? Are our students, by and large, committed to their studies, if to nothing else? If not, who is the loser?

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A low self-image makes it impossible for you to think in positive terms.

THE STUDENT AND HIS VALUES

A value is what a human being holds important. There are two major processes by which a student acquires his values. The first is identification with a personality model who reflects given values. This model may be a parent, a teacher, a hero (a living one or the one from history), or even a class-fellow. The second process is the acquiring of values through judicious choice from among established values by weighing up one value against another, by rejecting one and accepting the other.

Both processes are often operative in college situations. The first is the primary source and may start quite early. It is often unconscious on the part of both, the student who chooses the model and the person who is chosen as the model. The second process involves a degree of mental maturity, which should be the conscious focus of attention on the part of both students and the college.

A good definition of college is an institution where teachers and students are engaged cooperatively in a common quest for values in the context of teaching and learning, for the central purpose of education is to develop a meaningful and consistent system of values. Values are mainly acquired through the intellectual process of comparative assessment of values. Can you identify experiences in your class work and outside that indicate that your instructors are engaging you in this process? Only that college which involves students silently and intimately in value-laden experiences is effective in shaping and imparting values.

Can you draw up a list of your own values and that of

other dominant social pressure groups? What are the general trends on your campus? For instance, what are the pressures that tend to encourage cheating? Does cheating in examination threaten a student's integrity? Is it true that a sense of the importance of personal honour, honesty and integrity seems to be declining? Why?

You must be very clear about the concept of honour and personal honesty. For the individual himself, nothing is more important than this personal, interior sense of right and wrong and his determination to follow it rather than be guided by what everybody does or approves of.

It is impossible to imagine a good society composed of men without honour. What present day men most desire is security. But what is real and ultimate security? No one who is dependent on anything outside himself, whether money, power, fame or what not is, or ever can feel, secure. Only he who possesses himself and is content with himself is really secure.

Cooperation is less important than the ability to stand alone, when the choice must be made between the sacrifice of one's own integrity and adjustment to or participation in group activity of dubious and dishonest kind. No matter how bad the world may become, no matter how many people may lose their virtues, one fact remains: even if one person refuses to go along with the rest, asserts his individuality and inner light, believes in and is loyal to what his fellow men seem to have given up, that one person will constitute what is perhaps the most important part of humanity.

DISCIPLINE AND FREEDOM

Discipline is a much misunderstood word. Children think that discipline means not being allowed to do all that gives them pleasure, young people think that discipline means avoiding all that is attractive and beautiful in life and some old people think that discipline means the crushing of all natural desires, which according to them, are evil. In point of fact, all these interpretations of discipline are incorrect, real discipline stands for none of them.

The word "discipline" has the same root as the word disciple, and it literally means learning to make proper use of one's native impulses and capacities. It does not imply the crushing of natural urges, because natural urges or impulses are the basic raw material of human nature, the real sources of its energy. We cannot afford to destroy the very spring from which the power flows.

Childhood and boyhood is the time when we should learn or be made to learn how to make proper use of our emotional tendencies, as we learn to use our limbs, muscles and mental powers.

In the ultimate analysis, discipline means a system of regulating and directing our impulses to ensure proper development of our personalities. This is also the nature's way of doing things. For example, sympathetic nerves ensure the heartbeat, but parasympathetic nerves regulate the beat. Another example is the cortex-the upper grey layer of human brain. If the lower lobes of the brain are the seat of impulses and release powerful waves of

emotional energy through certain glands, the upper layer-the cortex serves as the guard. Cortex is the control centre to ensure that the nervous energy is properly used in the service of the whole personality. Animals do not have to carry out this sort of control, hence their brain is without a developed cortex. A child at the age of two is unable to control his impulses because his cortex at that age is underdeveloped.

Discipline helps us organize our personality so that we can then go forth to meet the demands of life.

By discipline we also give greater freedom not only to the personality but also to the native impulses, for in directing them we are not repressing them but giving them freedom of exertion without conflict.

Next comes the question of freedom? But what do we mean by freedom, freedom from what and freedom for what? The answer is:

a. Freedom from our native instincts
b. Freedom for our personality as a whole

Apparently freedom for impulses means to do what we like. But is it possible or even advisable? Can we really do so? Apart from social and moral considerations, complete freedom of action does not work. After all, as pointed out earlier, nature has developed a cortex of the brain, whose main function is that of judicious inhibition. Yet there is another consideration, if primitive impulses are given unbridled freedom, they will clash with one another and with the good of the personality as a whole. If the

impulses are strong enough, they will nullify the will power.

So being free means not freedom of the impulses to do as one likes but freedom for the personality as a whole. This means that the personality should be free to pursue its ends unhampered, both from uncontrollable impulses and complexes. This is the real meaning of freedom of will.'

It is only by discipline that we can obtain the freedom to achieve our ends. Therefore, discipline is necessary to true freedom.

If a child wants to be free to play with other children, he must be socially disciplined. If he has his own way and does not observe the rules of the game, they would not let him play with them. He will be isolated, unpopular and unhappy.

Social life demands discipline and if we are free to take advantage of communal life, we must recognize the rights of others and our obligations to the community. If we do not want others to snatch from us, we must not snatch from them. It is the law abiding community whose members have the greatest freedom.

There is no antithesis between discipline and freedom. They are not opposites but complementary. Both sustain each other. You can not enjoy freedom without discipline and vice versa, you cannot have discipline without freedom.

Just as discipline is necessary to freedom of personality, so freedom is necessary to discipline. An act is not truly moral unless we are free to choose, to do the wrong as well as the right. This

is no less true with young people.

The worthwhile discipline is self-discipline and for self-discipline a person must have freedom to choose. If a boy is always made to do this or that, he cannot learn self-discipline, and when he goes out into the world he would be hopelessly at sea, the victim of every wave of temptation or wind of adversity.

There is, therefore, true and false discipline. The false discipline crushes and represses, while true discipline controls and directs. The former leads to rebellion or depression the latter gives freedom, both to the personality which uses the native impulses and to the potentialities thus used, and makes for both efficiency and happiness.

To put it in a nutshell, freedom and discipline go together. You cannot truly have one without the other. Virtue, mental health and efficiency all depend on the way we use the capacities with which nature has endowed us. Learning to do this is real discipline.

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The heights great men reached and kept were not attained by sudden flight. But they, while their companions slept, were toiling upward in the night. We have not wings, we cannot soar but we have feet to scale and climb by slow degrees, by more and more the cloudy summit of our time.

FROM DEPENDENCE TO INDEPENDENCE

One basic objective of college is to help you move smoothly from dependence to independence, from imitation to creation and from following to leading.

Now there is such a thing as true freedom or independence and a fake one. Young people more often than not, mistake the one for the other. Hence a majority of the youth never gain true independence of mind in spite of their flouting of social traditions and customs and high flaunting revolutionary platitudes and cliches.

In your late teens, you grow physically mature or nearly mature consequent upon the active functioning of growth and reproductive glands. After attaining physical maturity or puberty, there arises a natural urge in you to display your maturity. Hence your intense interest in all that which arouses your erotic emotions, especially the physical beauty. Had you been born in a primitive society, puberty would have been no problem. You would strainght away express it by engaging yourself in reqroduetive activties and that would have been the end of it and tragically also the end of all art forms-songs, love stories, poetry painting and sculpture. But living in a civilized Muslim society and in a developing, technologically advancing country, physical maturity alone becomes irrelevant. There is no worthwhile economic or social value attached to just being a young man of 18 or 20. Society values your economic productivity and social efficiency much more than biological productivity. Unluckily the two rival claims are made on the young people at the same time in their utmost intensity. From 16 to 20 is the period when your emotions are the

strongest, the desire to indulge in your passions is the keenest and yet that is the time when you have to build and work for your career too, which involves suppression of emotions, control of passions, and conservation of energy in order to be able to concentrate on intellectual pursuits to gain distinction in academics. To be a good sportsman or an athlete is comparatively easier because you are still closer to your natural, physical urges; but to engage yourself hour after dreary hour in intellectual or moral exercise is a different matter. It is apparently difficult but fortunately not impossible, provided you discover the secret of reconciling the rival claims of your wild natural emotions and the demands of intellect.

Human emotions can be expressed at various levels. Pleasure has many forms. It is physical as well as mental. Productivity can find multiple channels. Do not be a toy in the hands of your wild emotions, but strive to tame these elemental urges so as to put them to constructive use. This is real freedom, from the tyranny of primitive passions and emotions. Do not repress them as they are the fountains of energy, but do harness them as a wild river is dammed up to generate hydro-electric energy and irrigate lands.

Dependence is not only economic; it is also emotional. College education aims at releasing you from the chains of wild emotions and helping you harness their energy for cultural, social and mental development. This is called sublimation in the language of Psychology.

Dependence is of yet another sort-psychological. Young people are, by and large, highly suggestible. They unconsciously

tend to imitate. Their tendency to do as others or as their heroes are doing, is almost compulsive. Hence the craze for fashions, for pop-culture, for being fans of this or that kind. Young people are in the process of discovering their 'self', identifying their ego-goals; hence they go on following stray trends imitating people of their choice and thus wanting to feel secure. These are all efforts to gain confidence in themselves.

Pressure Groups: In a residential college this vulnerable psychological state has some peculiar implications. College education is extremely demanding. The whole climate is stressful, the competition is fierce, the standards are exacting. Naturally quite a number of students, for various reasons, fail to cope with the hard demands of this sort of education in varying degrees. So they start lagging behind the main stream. These boys with problems and difficulties, mostly suffer from emotional conflicts, fears and anxiety of one kind or another. A few of them might happen to be potential leaders. To assert their independence and superiority, they form pressure groups in the House or in the college. Some of those boys who have failed to make the grade, also fall in line and sheepishly join the pressure groups to overcome their inferiority complex. They do so to feel secure and to ward off their inward lack of confidence.

While in a college, be very particular about the group you join. Avoid all pressure groups. They will stifle your psychological independence, your right to think and act on your own. Learn to think independently and assert your independence in thought, in action. When it comes to making a hard decision, make it and stick to it whether others like it or not. Also beware of the tactics of the pressure groups. They will never call a spade a spade. In

order to conceal their own ulterior motives, they would invoke 'House spirit' or the prestige of the Entry or the merits of cooperation to promote or defend cheating in sports, in academics or in other fields.

Lastly, dependence or independence is a matter of mental habit too. For a variety of reasons, our education fails in this area the most. Both at home and at school, the atmosphere is dependence-oriented; so the youngsters joining a college are not only shy, but afraid of making an independent approach to college education. They want spoon feeding in the shape of pre-digested information; they want the teachers to do the learning for them. They tend to believe in interpretations as well as in laws which is a very wrong approach indeed.

All this is negation of college education.

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Our self-image causes us to act out the person we believe ourselves to be.

The image we have, causes others to treat us the same way

PROBLEM OF INSECURITY AND ANXIETY

More often than not, a beginner in college feels unconsciously insecure. His insecurity, produced by many different factors, manifests itself in various ways. One of the most common of these, is anxiety.

Anxiety of one kind or another is as common to most human beings especially to adolescents,as the appearance of secondary sex characteristics at the onset of puberty. So the phenomenon of anxiety is not alarming by itself; it often plays a constructive role. Normal anxiety usually reveals itself constructively in adolescents' thoughts and actions. It may spur them to solve some problem, to work harder and longer in order to compete better. It may aggravate a mild discontent with some human situation into a profound commitment to a missionary cause. Anxiety for the physical health or social well-being of others, if properly directed, may motivate a young man towards medicine or a social service career. Anxiety may be a potent factor in the learning process itself.

But an anxiety that turns itself into morbidity, that prompts the student to dwell dangerously on his failures and short comings, is of no real value to him. Because every body at home and on the campus entertains very high expectations of a college student, his failings are played up and he feels exposed to ridicule and disregard to which he is extraordinarily sensitive, especially in his late teens. Added to the frustration is his sense of guilt that he has failed to do what was so eagerly expected of him by his teacher,

Another source of anxiety is fear. The newly admitted

college student is haunted by nagging fears, mostly imaginary, for example, fear of ill- health, of failure, of being unreliable or lonely. Fears may be unreal, but they affect one's health and happiness all the same. These fears may assume alarming proportions in case the student finds himself neglected ignored or passed over. Acceptance and recognition are basic human needs and a college student needs them in abundance, whereas the general climate in college is of necessity impersonal. The beginner, fresh from a loving and affectionate home, by contrast finds it cold and unfeeling and experiences much anxiety.

This thirst for acceptance and recognition may lead some beginners astray. Undesirable social groups in college are always on the look out to recruit such frustrated hands into their ranks. They shower acceptance and recognition on them in full measure, though later on they exact a high price for this favour.

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Self-image is not confined to individuals. Orgainzation, teams, arimes, nation. all have self-image.

MAKING AND UNMAKING OF HABITS

Much of your success and none the less failure - in your career, apart from other well known mental and physical prerequisites, depends, to an extent not generally realized, upon the sort of life style you consciously take to, or unconsciously pick up. And a life style is nothing, but, in ultimate analysis, the sum total of one's living habits and working or study habits. These habits eventually form the frame of one's routine life and thus influence not only one's health and happiness but also his efficiency and effectivity.

There is an age old saying: a habit is second nature. Duke of Wellington, the hero of Waterloo, is reported to have once exclaimed:" Habit is ten times nature". And he was not far wrong. Himself a veteran soldier, be knew better how daily drill and years of discipline systematically, persistently some times even ruthlessly enforced, end up by fashioning a man completely over again as to most of the potentialities of his conduct. Hence once a soldier always a soldier. The whole personality pattern undergoes a change, even the modes of thinking and feeling are modified if not completely transformed. Such is the impact of a training system which gives a new life style based on new set of habits. There is a funny story about the force of habit, which is told again and again. A G.I. after taking release from the army, was doing a part-time job in a restaurant. By chance an old comrade happened to visit that restaurant and thought of playing a practical joke on him. While he was carrying a tray full of expensive bottles of wine and glass tumblers to a far off table, the friend hidden behind a corner shouted, 'Halt' and the veteran, the waiter, just came to attention position. The fate of the champagne bottles and glass tumblers can

be well imagined. Such is the force of a habit. Hence it will be worth-while to find out what is the nature of a habit and how it is made and unmade.

Wiliam James, the father of modern psychalogy in his monumental work, Psychology writes:

An acquired habit from the physiological point of view is but a new pathway of discharge, formed in the brain, by which certain incoming currents ever after tend to escape. Hence a habit has a physical basis. All habits are due to path-ways through the nerve centers.

A habit simplifies our movements, makes them accurate and diminishes fatigue. Moreover a habit diminishes the conscious attention with which our acts are performed (otherwise how tedious and time-consuming doing a button would be if every time it took as much time and conscious attention as it took when you did your button for the first time). Habit is thus enormous fly-wheel of both an individual as well as society, its most precious agent of making our living feasible and of preserving cultures and traditions.

The great thing therefore in all education is to make our nervous system our ally instead of our enemy. For this we must make automatic and habitual as early as possible as many actions as we can and hand over to the effortless custody of automatic agency so that the higher powers of mind will be set free for their own proper work.

In the acquisition of a new habit, or the leaving off of an

old one, we must take care to launch ourselves with as strong and decided an initiative as possible. Accumulate all the possible circumstances which shall re-enforce the right motives. Put yourself assiduously in conditions that encourage the new way, make engagements incompatible with the old, take a public pledge, if the case allows, in short, envelop your resolution with every aid you know. This will give your new beginning such a momentum that the temptation to break down will not occur as soon as otherwise it might, and any day during which a break-down is postponed adds to the chances of its not occurring at all. The second maxim is: Never suffer an exception to occur till the new habit is securely rooted in your life. Each lapse is like the letting a ball of string fall which one is carefully winding up, a single slip undoes more than one turn. Continuity of training is the great means of making nervous system act infallibly right.

The need of securing success at the outset is imperative. Failure at first attempt is apt to damp the energy of all future attempts whereas the past experience of success nerves one to future vigour.

The question of 'tapering off' in abandoning habits is open to question. In the main however all expert opinion would agree that abrupt acquisition of the new habit is the best way if there is a real possibility of carrying it out. We must be careful not to give the will so stiff a task as to ensure its defeat at the very outset, but, provided one can stand it, a sharp period of suffering, and then a free time, is the best thing to aim at, whether in giving up a habit or in simply changing one's hours of rising or of work. It is surprising how soon a desire will die of inanition if it be never fed.

A third maxim is: seize the very first possible opportunity to act on every resolution you make, and on every emotional prompting you may experience in the direction of the habits you aspire to gain. It is not in the moment of their forming, but in the moment of their producing motor effects that resolves and aspirations communicate the new "set" to the brain. No matter how full a reservoir of maxims one may possess, and no matter how good one's sentiments may be, if one has not taken the advantage of every concrete opportunity to act, one's character may remain entirely unaffected for the better. With mere good intentions, hell is proverbially paved. "A character", as J.S. Mill says, "is a completely fashioned will," and a will, in the sense in which he means it, is an aggregate of tendencies to act in a firm and definite way upon all principal emergencies of life.

So the crux of the problem is: how to make your 'will' strong. Power of will or will-power will make all the difference, keep the faculty of effort (will) alive in you by a little exercise every day. That is, be systematically ascetic or heroic in little unnecessary points. Do every day or two something for no other reason than that you would rather not do it. This sort of asceticism would ensure ever increasing resistance against recurrence of old habits.

At the end, it may be pointed out that all odd habits, even the seemingly harmless mannerisms and idiosyncrasies, have a psychological orientation and abnormal habits involving any sort of addiction - from drinking, smoking to all types of narcotics, not only directly affect the nervous system but also bring about chemical changes in the blood stream. Hence dealing with this kind of habits becomes exceedingly difficult. Beware of them.

They call for expert clinical treatment.

PART III

HOW TO READ BETTER AND FASTER

a. Read Faster and Better - Introduction
b. Six Rules for Faster Comprehension
c. Efficient Reader Versus Inefficient Reader
d. Reasons for Inefficient Reading
e. Reading as a Visual Process
f. Responding to Total Meaning
g. Summing- up

READ BETTER AND FASTER

You may not know it but the fact is that you read altogether too slowly - much more slowly than you are actually capable of reading. And you are no exception. Most people read far too slowly.

Lack of speed results chiefly from three factors:

a. Reading habits that you have built up through years of wrong kind of practice.

b. Unaggressive techniques of comprehension that interfere with total concentration and stand in the way of your responding to a page of print as rapidly and as actively as your potential ability makes possible, and

c. Poor techniques of perception that cause unnecessary time-lag between the act of seeing and the act of mental interpretation of what you see.

You read slowly not because you are poor reader but because you are inefficient reader. Systematic and intensive training can materially increase the efficiency and speed of your reading, providing of course, that you are willing to devote time and effort required for this practice.

FASTER AND BETTER READING

Six Rules for Faster Comprehension:

1. **READ MORE.** Read a lot more. You will have to read much more than you are now in the habit of reading. You must make time for reading. Speed can be developed into a permanent habit only if you do what naturally fast and skillful readers have always done, from childhood onward; read a lot. Unless you develop the habit of reading for two hours or more at a stretch and several stretches every week, do not expect ever to become an efficient or a rapid reader.

2. **LEARN TO READ FOR MAIN IDEAS.** Do not waste time and effort on details. While reading an article, or book of general interest, even a text book in the second reading, push through efficiently for quick recognition of the main ideas that the details support and illustrate. Be more interested in the writer's basic thinking than in his minor points.

When you read a volume of non-fiction, be intent on getting the theme, the broad ideas, the frame-work on which the author has built his book. Don't let an occasional perplexing paragraph, page, or chapter slow you up. Keep speeding through. As the complete picture is filled in by rapid over all reading, the few puzzling details will either turn out to have been inconsequential or will be cleared up as you move along.

When you read a short story or novel, follow the thread of the plot, consciously look for and find the 'conflict,' skim whenever you feel impelled to, don't move from word to word and sentence to sentence.

3. CHALLENGE YOUR COMPREHENSION.

Fast readers are good readers. They are fast because they have learned to understand print quickly and they understand quickly because they give themselves constant practice in understanding. To this end they READ CHALLENGING MATERIAL and you must do the same. Does a novel sound deep, does a book of non-fiction seem difficult,does an article in a magazine look as if it will require more thinking than you feel prepared to do? Then that's the type of reading that will give you the most valuable training.

4. BUDGET YOUR TIME.

Fix a definite time by which you want to finish the reading. If you know that you must finish half the book tonight and the other half by tomorrow, you will speed up, because you will have to.You will develop tricks of getting ahead, of skimming parts that are less essential, of looking for main ideas, of reading at your top potential rate. The good reader always has a feeling of going fast, but he is never uncomfortable, for he has developed fast habits.

If you make up your mind to finish an article in two hours, you can finish it in two hours. Such is the adaptability of human mind under pressure.

5. PACE YOURSELF.

When you start a new book, read for quick understanding for fifteen minutes. Count the number of pages you have finished in that time, multiply it by four and you have your potential speed

for that book in pages per hour. Some books are slower reading than others. The more solidly packed the ideas are on a page the more time it will take to cover that page.

Devise personal tricks to speed up. Sharpen your comprehension skill. But you must practice every day or nearly every day, if you wish to make high speed comfortable and automatic, if you wish to become efficient in quicker understanding.

Every person of normal intelligence can concentrate when he reads, but slow readers put themselves at a disadvantage. If, through laziness, you read at a slower rate than the rate at which you are able to comprehend, there is great temptation for your mind to wander.

The brightest child in a class is not always the best student. If the work is too easy for him, he becomes bored and stops paying attention. (Slow reading induces attention to wander).

By reading always at your top comprehension speed, you constantly challenge your understanding, you stimulate your mind, you get involved in author's thoughts without half trying. From speedy reading you get increased concentration which in turn sharpens your understanding and enjoyment. But reading about the principles of efficient and rapid reading is not going to make you a faster or better reader. Only putting those principles into practice, over a period of time, can do that for you.

By doing much more reading, you also get much more out of reading. Eliminate faulty and inefficient habits that interfere

with total concentration, that slow up your comprehension, that keep your rate of reading down to a much lower level than you are potentially capable of achieving.

EFFICIENT READER VERSUS INEFFICIENT READER

The efficient reader has a cruising rate of at least 300 to 400 words a minute.

1. Varies his rate according to the type of the material. Suits his speed to what he wants to get out of the material.

2. Reads for ideas, is rarely conscious of individual words, skims, or skips unimportant words, paragraphs, sections or even whole chapters.

3. Has few, if any regressions - his perception is accurate, fast, dependable and so nearly unconscious that he can concentrate on meaning rather than on separate words.

4. Covers the average line of print in three to five eye-movements.

5. Reads silently in the literal sense of the word - his lips, tongue and vocal cords are motionless and he is far more aware of meaning than of sound.

6. A poor reader often gets bogged down in details and subordinate elements at the sacrifice of a clear awareness of salient concepts and important overall ideas whereas the efficient reader pushes briskly through details to grasp main ideas. Is more

interested in the basic thinking that shapes an author's writing than in minor points or background information.

THE INEFFICIENT READER

1. Reads passively, sentence after sentence, without any understanding of either the material as a whole or of the relationship of the parts. On the other hand, the efficient reader reads with aggressive comprehension, thinking along with the author, interpreting the purpose and function of broad sections of material, and searching always for the final and total meaning of any piece of writing.

2. Concentrates imperfectly. Because he is not deeply and actively involved in what he is reading, he is easily distracted by irrelevant thoughts, by external noises or by the happenings around him. As a result, his retention and recall are poor whereas the efficient reader concentrates immediately and perfectly - becomes so involved with the ideas on a page that he temporarily loses contact with the outside world. He has, in consequence, excellent retention and recall.

3. Fatigues easily, because reading is for him a slow, unrewarding, even tedious process. Spends only as much time with books as is absolutely necessary. The efficient reads for hours at a time without becoming tired. He can and usually does, complete an entire novel or magazine in a single sitting.

a. Reads slowly, 200 words a minute or less.

b. Reads all material of whatever type of difficulty at an

unvarying rate.

c. Reads word by word, or in extreme cases, syllable by syllable.

d. Makes many "regressions", that is, rereads syllables, words, or phrases to assure himself that he has seen and understood them correctly.

e. Moves his eyes eight or a dozen times or more to cover the average line of print.

f. May 'vocalize'i.e. sound words out with his lips, tongue, or vocal cords, thus keeping his speed down to his rate of oral reading and seriously interfering with smooth comprehension, or he may be excessively dependent on "inner speech" i.e. on hearing the sounds of the words he is reading.

FACTORS RESPONSIBLE FOR INEFFICIENT READING

PERCEPTION SPEED

The inefficient reader reads every word in a selection, giving equal weight and time to all words, to every single word no matter how relatively unimportant, instead of using words as a means of grasping the author's ideas.

He does not quite trust the adequacy of his comprehension. He reads meticulously, digesting and re-digesting every sentence, every paragraph.Paradoxically enough, not only his speed suffers as a result of such extreme care, but his comprehension also, for he gets so involved in details and relatively unimportant minor points that he often misses the main theme of the writing.

He strives too hard to be perfect in his grasp of every detail. Therefore, he often regresses. Having no confidence in his comprehension he goes back to check on figures, minor points, statistics, and bits of description and thus cuts his train of thought, makes him over-conscious of words, ruins his concentration, breaks the smoothness of his absorption of ideas, and of course, wrecks his speed.

The efficient reader has so large a vocabulary that the words he meets are quick conveyors of thought. The vocabulary of the inefficient reader on the other hand is so limited that many of the words he encounters represent a mystery to be puzzled out before ideas can be fully grasped and appreciated.

The efficient reader has already read so much that he can

constantly compare and contrast his present reading with his previous literary experience; he has a back-ground on which to build. The inefficient reader too often has to approach every little bit of knowledge as a new and unrelated experience.

The efficient reader has developed a strong intellectual curiosity, and all the reading he does helps in some measure to satisfy that curiosity. The inefficient reader's intellectual curiosity has gradually grown weaker because reading has never been a sufficiently comfortable or rapid process to make the satisfaction of his curiosity worth the effort.

The good habits needed for fast and skillful reading can be developed in a comparatively short time. You can train the speed and accuracy of your visual perception. You can learn to attack material with the kind of aggressiveness that will sharpen your concentration and increase your rate of comprehension, you can learn to eliminate regressions, to by-pass your vocal apparatus, to decrease your dependance on inner speech, and to avoid under attention to minor details. You can with proper practice and guidance, learn to plough ahead speedily absorbing the main ideas, getting the over-all picture. You can start building your vocabulary and stimulating your intellectual curiosity.

You can do all this if you actively will it instead of merely wishing for it.

The wish to learn is diffuse and general. It means that we repeat a thing again and again hoping for some thing to happen. The will to learn means that we dig down and analyse, that we try to find out exactly how to put it right.

READING AS A VISUAL PROCESS

We do not read with our eyes at all, but with our minds. The eyes are only a vehicle of transmission. They flash the visual impulses that the brain interprets and the mind reacts to. Such interpretation reaction may be instantaneous or halting, accurate or erroneous, easy or full of effort depending not on the sharpness of a reader's vision but on the clearness and richness of his understanding and on the reflexive perception habits under which he operates.

HOW TO GET THE GIST QUICKLY

1. Rush through material looking for total meaning.

2. Eliminate from your reading habits any excessive regard for minor details.

The average untrained reader reads at a speed much lower than his innate ability to understand should make possible. His slowness may be caused, in part, by unnecessarily short recognition span, so that he habitually interprets print almost word by word rather than by phrases or by thought units of several words. No only is his speed curtailed, it obviously takes more time to read three or four words in separate fixations than to read them all in one fixation but his comprehension is also likely to read them all in one fixation but his comprehension is also likely to suffer, for his attention is focussed on individual words instead of on ideas and total meaning. He might have a psychological compulsion to read every word. In fact reading is not directly connected with words but only with ideas.

RESPONDING TO TOTAL MEANING

Get into the habit of viewing material as a whole, instead of passively absorbing it thought by thought, sentence by sentence or word by word. Purposefully seek out the answer to one dominating question:

"What, in total, is the author trying to say? What is the main idea of the piece? What is the final meaning that all the words and sentences add up to"?

You must learn to extract that answer quickly and skillfully from the mass of words and details. Keep clearly in mind that your dominating aim as you read, is to grasp total meaning. To do this rapidly and accurately try to sense the broad structure of the writing, try to get a feeling for the pattern the author is using in presenting his material to you, try to realize how the details serve to high-light the main ideas, but don't let these details slow you up.

One of the over-riding values of detecting the pattern of a piece is that you don't have to read every single word, or every single sentence, or every single paragraph. You know, by thinking along with the author in the pattern he has set up, what is likely to come next, and whether it is important, less important or completely unimportant to the final meaning of the selection.

SUMMING - UP

EFFICIENT READING

There are different types of reading. You read for pleasure i.e. fiction; you read for information i.e. Gk. books, newspapers, magazines etc. and you read for ideas and reflection.

Do you read all sorts of reading material at the same pace in Urdu and in English? Have you any idea of your reading ability? Are you habitually a slow reader or a fast one? Do you vary your speed per minute depending on what you are reading? Have you ever explored the relationship between word- per-minute rate and comprehension? Have you ever taken a test in reading skill in Urdu or in English? If not, take one yourself. Take an unseen passage of moderate difficulty go through it at your normal pace. Take time. Count the words and count the minutes taken, and check comprehension too.

When reading strictly for information, what rate is appropriate? Does slow reading tend to over-accent details and obscure the main ideas? And how rapid should you read for enjoyment?

For reading text books, a different approach is required. Here details too matter. How will you read for details? How will you interpret, evaluate and draw inferences or get central ideas?

Find out if your vocabulary is adequate for your communication needs.Check both its size and accuracy. Also check upon yourself noticing such things as your grasp of sentence and

paragraph structure and your ability to organize material effectively.

If your difficulty is comprehension; the reason may be lack of concentration. Increasing your reading rate may bring needed concentration or the cause may be inadequate vocabulary or lack of experience with material at a certain difficulty level. Knowing that you tend to miss details or main ideas will help you direct attention more intelligently.

Getting full value from the printed page with a minimum of time and effort is an ability well worth cultivating for immediate academic success now and for profitable use in future too. No matter how poorly or how well you now read, the chances are, you are reading below your maximum potential.

Reading, writing, speaking and listening are actually so closely inter-related that improvement in any one, facilitates improvement in all others. How fast you read and how much you comprehend is the key question and the next point to be considered is at what difficulty level you read with adequate understanding. College-going students have to learn to raise the difficulty level progressively with the advance in the courses they are taking. And should appreciate the important role of effective reading at higher level of difficulty in order to be able to communicate difficult ideas more effectively.

(Adapted from How to Read Better and Faster by Norman Lewis)

PART IV

THINKING

The importance of thinking

1. Kinds of thinking

    a. Fancying
    b. Imagining
    c. Believing
    d. Reflecting or critical thinking

2. Process of thinking

    a. What is creative thinking
    b. How to develop a critical mind
    c. Physiological aspect of thinking
    d. Thinking with blood

3. What is intuition

4. Pit falls in thinking

    a. Generalization
    b. Prejudices
    c. Rationalization

5. Questions to test thinking

6. The Wonder of Wonders-The Human Brain
    a. Structure
    b. Function
7. The Miracle of Memory

Importance of Thinking

The reasons why reflective or critical thinking must be an educational aim are as under:

1. It makes action possible with a conscious aim. Ability to think is highly important. It is regarded as the distinguishing power that marks off man from lower animals.

2. It emancipates us from merely impulsive and routine activity.

3. It enables us to know what we are about when we act. It converts action that is merely repetitive, blind and impulsive into intelligent action.

4. The being that cannot think is very likely be stimulated to act by some physiological state, by some present external stimulus. The being that can think is moved by remote considerations, by results that can be attained perhaps only after a lapse of years. A thinking being is moved not only by remote considerations but also by moral considerations. He is more likely to be more tolerant, more sympathetic, more humane more considerate, more just, even more honest because he is far - sighted, he is much less a creature of impulse than the one who has not learnt how to think well.

The social and economic consequences of better thinking.

1. Better thinking and better education go together. Better education will make people mentally more mature. They will understand the whole spectrum of socio - economic problems

better and would be able to make better responses to them. For instance, they would appreciate the value of greater and better production of goods and services in the country.

2. Thinking makes systematic innovations and inventions possible. It gives increased power of control. To draw inferences is the great business of life. Each one of us has to judge of evidence and act accordingly.

Reasons for systematic training of thought or correct thinking.

1. If the power to think is not trained properly, its development may take the wrong course. Thinking may develop in positively wrong way and lead to false and harmful beliefs and then the worst possibilities may be realized. Man's capacity to think is a two-edged weapon. It frees us from servile subjection to instinct. If it elevates us above the brutes, it also opens the possibility of failures to which the animals limited to instinct, can not sink.

2. It may be noted that there is no specific faculty of thinking. Therefore any set exercises in correct thinking are but of limited value.

3. Will practice in correct thinking result in the creation of a general habit of thinking - one applicable over a wide range of subjects?

4. The answer is, 'No'as correct thinking is specific not generalized. Logical attainment in one direction is no bar to extravagant conclusions in another.

5. Instead, best assurance for correct thinking lies in a general attitude of enquiry and testing, an open-mindedness, freedom from prejudices and an active desire to listen to more sides than one.

6. Another ingredient of that attitude is singleness of interest. Divided interest is the arch enemy of effective thinking. Some times a student gives only external and perfunctary attention to the teacher and to his books while his inmost thoughts are concerned with matters more attractive to him. He pays attention with ear or eye, but his brain is occupied with affairs that make immediate appeal. Distracted attention is unfavourable to good thinking. A genuine enthusiasm is an attitude that operates as an intellectual force.

7. A third element is responsibility. Responsibility in facing the logical consequences of a course of thinking. To carry something through to completion is the real meaning of thoroughness and power to carry a thing through to its end or conclusion is dependent upon the existence of the attitude of intellectual responsibility.

Kinds of Thinking.

The word 'thinking' is loosely used to cover four different ways of mental activity:

a. Fancying

b. Imagining

c. Believing, holding an opinion or recalling a piece of

information

d. Reflective or critical thinking

Fancying

Mind never remains inactive or vacant. While we are not deliberately concentrating our attention on some thing, a stream of unconnected or loosely connected vague ideas (fancies) goes on gliding through our mind. This process is often described as thinking. If you suddenly ask the inattentive boy a question, he wakes up with a slight jerk from his reverie, gives you puzzled look and keeps mum. When pressed for an explanation, he concedes, 'Sorry, Sir, I was thinking about something else. Thinking in this sense in most cases, refers to wandering thoughts in which purposeful mental activity is not involved.

Imagining

Sometimes the word 'thinking' is used to mean imagining.

Example: Somebody is describing an accident in great detail. You are fascinated. You ask him, 'But did you see all that yourself'. 'No, I only thought so', is the reply.

Another example.

Once a child and her mother both chanced to see high spirals of smoke rising from a distant field. 'What is that'? her mother unwittingly spoke out. 'That smoke'! the child seriously said,' they are burning a man over there'. 'Did you see? how do

you know'? asked her mother. 'I think so', was the confident reply.

Thinking and imagining are sometimes mixed up. Children's thinking mostly constitutes of flights of imagination.

Thinking as believing. Examples:

1. 'I think so and so (people) cannot fight, they are not a martial race'.

2. In 1960, F.M Auckinleck while addressing the cadets of Military College said: 'I think there is no such thing as a martial race. It's a myth. It is the will to fight that counts.

3. I think those who continuously drink buffaloes' milk cease to be sharp witted.

4. I think the wheat-eating people are more intelligent, more vigorous than rice-eating people.

5. I think fish-eating people tend to be born rebels.

In these examples believing has been taken as thinking, less in example number two.

Another example of a different sort:
'Which woman was first to go into space'?
'Valentina, I think.'

The answer is correct. But reproducing or recalling is not

the same thing as thinking. Remembering is not thinking, though memory plays a part in the process of thinking.

In the above cited examples, the example number two quoting F.M Auckenleck however can he counted as thinking as it was not mere expression of a belief it might have involved a more complex mental activity.

Let us take another instance.

As an experiment, the same question (on a woman's first flight in the space) was put to another student, with a slight twist, It ran like this:

'Which female was first to fly in the space'? The student said." Sir, do you mean just a female being or a female human being? If you mean just a female being, the answer is: Laika - the Russian bitch that first went into space in 1956. And if you mean a female human being, it was Valentina, again a Russian woman who went into space on 14th June 1963 and later married another Russian astronaut Andrian on 3rd Nov 1963.

Obviously the second student knew much more than the first one. It's true that knowing more does not always mean more thinking. But in this case his reply in fact involved much more than mere recalling of scattered pieces of information. Before answering, he examined the question, thought over it, he turned over the problem in his mind, recalled past knowledge, and pieced it together all in a flash. He concentrated his attention on the word 'female' and immediately grasped its implications. He used his mind more intensely and more actively. Therefore he was able

to make out his point more strikingly and intelligently. In short, he did what is called thinking, though reflection of a very elementary sort. The deeper thinking, of an inventive or creative mind like that of Einstein or Iqbal, is an extremely complex process.

So 'thinking' is not fancying. It is not mere imagining. It is not the same thing as believing or holding an opinion. It is not remembering pieces of knowledge or recalling past experiences either. What is thinking then?

'Thinking is an active mental process. It utilizes past experiences but only as references. It weighs the evidence. It asks searching questions. It involves reasoning. It impels inquiry, scrutiny and persistent and careful examination of a piece of information, an opinion or a belief. '

Thinking thrives on a questioning attitude. It needs knowledge, a lot of it. It requires relevant experiences, no doubt. But above all a bent of mind which is never tired of asking questions, which is prepared to disbelieve what has been taken for granted earlier.

Process of thinking

A connected chain of clear thinking can be seen to have a very simple structure. It begins with the asking of question and finishes with partial answer. That answer is itself the starting point for the next question to be asked and therefore begins the next phase of the process. Accordingly thinking has to be seen as a process that proceeds in stages, where each leads to a higher level of understanding than that of its predecessor.

Thinking begins in a situation that is ambiguous, that presents a dilemma, that proposes alternatives. The origin of thinking lies in some perplexity, confusion or doubt. To resolve that doubt past experience and a fund of relevant knowledge must be at one's command.

Even when a child (or a grown-up) has a problem, it is wholly futile to urge him to think when he has no prior experiences that involve some of the same conditions.

Reflective thinking is possible only when one is willing to endure suspense and undergo the trouble of searching.

Over-positive and dogmatic habit of mind is inimical to critical thinking. One has to suspend one's belief until justifying reasons have been found.

One has to be sufficiently critical about the ideas that occur to him or he comes across.

The crux of the matter is, of course, the asking of question. How is the initial question to be asked and what plan is to be followed in seeking the answer. The question and answer cannot be separated from each other. Any fool can ask a question but he only who knows the answer can point the way to the correct answer.

How to think better ?

Thinking can not be done in a vacuum. It must have a broad base of actively acquired knowledge. Moreover the range

and variety of personal experiences should be as wide as possible. The habit of close and minute observation helps. However, amassing of information is not enough. It is not to be left in a heap. It is classified and sub-divided so as to be available as needed. So mere reading is not required. Creative reading is called for.

Creative reading and thinking

One means towards development of the critical and constructive mind is reading, not merely routine reading but close, critical and creative reading which enables the student to challenge the statement or main thesis of practically everything he reads. He does not accept anything on its face value. He questions. Isn't this process time consuming? It is. But so are all things which are worth while. Life itself is not simple - susceptible of immediate apprehension. Most worth-while things are pretty difficult to obtain. Let us not be guilty of hasty reading and beware of the book which yields itself to casual reading. There may not be much kernel in it.

Q. What is Creative Thinking?

A. An educated man enlarges his intellect. He does not merely accumulate facts but learns to put things together inductively to seek new knowledge and insights. The one who aspires to be a creative thinker rises above the usual intellectual plane, gradually forms free and creative imagination that will enable him to think independently.

Q. What is the key to Creative Thinking?

A. The urge to be original, the courage to think independently even in the face of over-whelming odds to the contrary is the key to creative thinking.

Q. How much does a creative / inventive mind owe to others?

A. Much more than is generally assumed. Before seeing the apple fall on to the ground and discerning the famous Law, Newton had spent years together on studying Physical Sciences and before inventing the electric bulb Edison had filled 200 note - books covering 40,000 pages while studying and reading every possible thing on earth about light down to a candle and oil lamp. The same is true of Darwin, Einstein and Iqbal. The great achievement of a genius is that he is able to create something new out of the old stuff or starts from the point where his predecessors had left. He is original. He creates.

Planes of thinking

We distinguish between people not only upon the basis of the quickness and variety of their intellectual responses, but also with respect to the plane upon which these occur - the intrinsic quality of their responses. One's thought is profound, while another's superficial; one goes to the roots of the matter and another touches lightly on its most external aspects.

Q. Is good thinking quick or slow?

A. It depends on the nature of the problem. Sometimes slowness and depth of responses are intimately connected. Time is required in order to digest impressions, and translate them into substantial ideas. The slow but sure person, whether man or child is one in whom impressions sink and accumulate so that thinking is done at a deeper level of value.

Q. What about the value of quick - thinking?

A. Habits of speedy, but superficial judgement are not conducive to good thinking. In fact they are inimical to it.

Q. Are some subjects of study more intellectual than others?

A. Not at all. Thinking is specific and any subject may be intellectual. It's a question of how you tackle it.

Q. How is it that a good thinker in one field of mental activity (subject) is a very bad thinker out-side his specialized field of study? Yes. Sometimes it is so. Because thinking is specific the chances are ,if thinking has not become a matter of attitude, that scientist may fall a victim to fads and fancies or to prejudices.

Q. How to develop a critical mind.

A. A student should be introduced to a method of thinking and reading which turn the process of his mind away from the merely receptive to the more active.

Q. What is good thinking?

A. To be genuinely thoughtful, we must be willing to sustain and protract that state of doubt which is the stimulus to thorough inquiry so as not to accept an idea or make positive assertion of a belief until justifying reasons have been found.

Q. What is bad thinking?

A. Bad thinking means jumping at a conclusion without weighing the grounds on which it rests. It involves foregoing or unduly shortening the act of hunting, inquiring and taking the first answer or solution that comes because of mental sloth.

Q. What role does curiosity play in thinking?

A. The instinct to be curious - the urge to know, to find, to explore, to discover, is the fountain-head of creative and inventive thinking. But curiosity in its raw form can not take us far. There are three stages or levels of curiosity. In the first place, curiosity is:

1. An expression of an abundant organic energy - just organic curiosity of physical exploration and linguistic interrogation.
2. In the second stage children are often more interested in the mere process of asking a question than they are in giving heed to the answer.
3. Intellectual curiosity. Curiosity becomes intellectual

in the degree in which it is transformed into an interest in finding out for oneself the answers to the questions that are aroused by contact with persons and things. There should be a natural transition from organic curiosity to social curiosity and from social to intellectual curiosity enabling a student to ask right questions about right things. Curiosity is some thing which easily degenerates into social nuisance.

Q. What is the physiological aspect of thinking?

When you are thinking, tiny electric currents pass over the brain. As thinking is an active process, brain uses more energy when it is doing thinking than when it is not doing so what is the implication of this fact for a student?

A. You have to be physically fit and energetic to do effective thinking.

Q. Is remembering thinking?

A. Yes, it is. Remembering is thinking about past events. It involves recalling the past experiences. It is thinking of a passive kind. Thinking is always conducted in the present but the centre of the thought my be an image of the past, a thing of the present or a constrūcted image of the future.

Q. What is thinking with blood.

A. Many people think with their blood. Both thinking and feeling are associated with brain. Both are aspects of mental activity. No thinking is entirely free from feeling and no feeling is pure feeling. It is the question which element predominates at the moment.

Thinking with blood is another way of saying that one is very emotional, that is, his actions are being decided principally by his feelings rather than by his thoughts. Conversely, we sometimes hear; 'He is very cold and calculating'. It amounts to saying that so and so is less emotional and more thoughtful in his way of life. These are examples of using words loosely.

Q. **What is intuition?**

Pre- knowledge is called intuition. Intuition comes from knowledge and interest. It is the result of being steeped in a subject of great interest. Intuition happens of its own accord when a person thinks hard and long on any subject.

Q. **What are the pitfalls in thinking?**

A. 1. There is a built-in disposition to pass judgement on the basis of mere custom, tradition and prejudices. We tend to shirk the task of thinking.

2. There is a primitive credulity-a natural tendency to

believe any thing that is suggested unless there is over-powering evidence to the contrary.

3. There is a tendency to believe what is in harmony with desire. We jump to conclusions. We all fail to examine and test our ideas because of our personal attitudes.

Q. **What is generalization?**

A. When we generalize, we tend to make sweeping assertions i. c, from one or only a few facts we make a generalization covering a wide field.

Q. **What is a prejudice?**

A. A prejudice is literally a pre-judgement. It refers to a blind faith, a pre-judgement, an irrational emotional attitude believed without subjecting it to correct thinking.

Q. **What is rationalization?**

A. It is a mental process by which a person tries to find rational justification in a false manner for his prejudices, or for his wrong, illegal or immoral actions. This can be a conscious process. In most cases it is unconscious one. The question of rationalization deserves an elaborate discussion. Only man is capable of rationalization. Animals do not. Their responses are more or less wholly governed by their built-in motives - instincts. Only man can think. But he can think well as

well a badly and he is also able to give a twist to his thinking, to his prejudices and to invent sound looking reasons for his most atrocious and foul actions. Man is therefore capable to sink lower than the animals can. Hence there is an urgent need for the training in thinking so that at least ignorance and poor thinking does not contribute to bad and poor responses.

Questionnaire to stimulate intellectual thinking.

1. 'Who seldom reason, act and think according to example'

   Is it true? Do you agree?

2. 'Putting passion in place of reason'.

   What does it imply?

3. So and so is sincere in following reason but tends to infer from limited data.

   Can he come to correct conclusions?

4. Do you prefer keeping contact limited to one brand of ideas and people?

5. Do you invite criticism or accept criticism or do neither. This nor that?

6. Have you an over-positive and dogmatic attitude?

7. Do you believe on prestige/authority?

8. What is meant by 'generalization'?

   Give an example of generalization'?

   For instance:
   You visit a new place, a few people you meet there are not

very friendly. You may say 'People in such and such place are not very good'.

Give another example of generalization.

9. What is rationalization? Give two examples of rationalization.

10. 'Since all cheat' Is it a generalization? Is it factually trie? What sort of thinking does it exemplify?

11. What is organic curiosity?

12. What is social curiosity?

13. What is intellectual curiosity? Give examples.

14. What is the psychology of gossip, of maligning others?

15. Who is a rumour-monger and why?

16. Do you tend to believe in rumours? Why does a rumour spread so fast?

17. Which sex believes in rumours more: men or women? and why.

18. What is suggestibility?

19. What is hypnotism? Are all human beings equally susceptible to suggestion?

20 What is a prejudice?

21. Is it true that some people never have any opinion of their own?

22. Is it true that some people feel shy of making a decision of their own?

23. What is meant by taking a premise to its logical conclusions?

24. Do you think food habits have something to do with the character traits of a people i.e, fish, rice, wheat,buffalo/cow milk, beef or mutton taken as staple food, will affect their consumers?

25. Do you believe in 'blood' in assessing anybody's character?

26. Which is more important, nature or nurture? Give reasons and examples.

THE HUMAN BRAIN

The wonder of wonders

The brain is the most important part of the body. The heart is merely a pump, the lungs an oxygen-generating system. But the brain is the master controller, the guiding force behind all man's actions. It is the seat of all human thought and consciousness and the source of ingenuity that made it possible for man's remote ancestors to survive and actually dominate their physically more powerful adversaries and evolve into the planet's highest form of life. Every thing that man has been, every thing he will be, is the product of brain. It is the brain that enabled the human mind to use tools and that gives its genetic successors the ability to build the space crafts, explore the universe and analyse their discoveries. It is the brain that makes man, man.

Brain is not just a part of man, it is he, his personality, his reactions, his mental capacity. We do not hear with our ears, do not taste with our tongues, do not feel with our fingers. All these things happen inside the brain-eyes, ears, tongue and fingers merely gather information. Brain tells us when we are sick, when we are hungry. Brain governs our urges, our moods-every thing (when we go to sleep our brain does not stand still, it goes on functioning, hence dreams and un-conscious problem-solving).

Structure of the Brain.

The brain is encased in a skull which is a quarter of an inch thick at the top, even thicker at the base. It remains bathed in a watery fluid that cushions it from shocks. It weighs about 3

pounds. It's 2% of body's weight but requires 20% of the oxygen we inhale and a fifth of the blood our heart pumps. In the event of temporary shortage, we faint; if the supply is cut off for a few minutes, we may suffer a grave damage-paralysis or death may occur. It also demands a steady supply of nourishment-glucose. Even in situations of acute starvation, brain appropriates its share first from whatever is available.

Its shape is mushroom-like. It is made of grey and white tissues. (Hence 'grey matter' refers to quality of the brain and calibre means capacity or quality of mind).

Its component parts are 3o billion neurons or nerve cells each of which is connected with others, some as many as 60,000 times.

Some characteristics of brain cells

Skin, liver tissues, even blood cells can be replaced after damage or loss. But brain cells do not reproduce themselves. If brain cells are lost, they are lost for ever. With age, after about 35, cells start dying and losing weight, but this loss is generally not felt as their jobs are taken over by others. If for any reason enough cells are lost, senses may suffer, attention span may diminish, forgetfulness may occur. However,really important jobs are, generally, taken care of till the end of one's life.

Brain Mapping

Brain-mapping has been attempted. An outline of primary

functioning areas has been drawn - vision in the rear, learning on the sides. A pleasure centre has also been discovered which can be artificially stimulated. (Electric-shocks therapy for depression and other abnormal conditions of mind is now a well-known technique).

Brain has distinct right and left hemisphere. Its left half controls much of the activity on the right side of the body while the right half controls the left side. With right-handed people, the left hemisphere is dominant, with the left-handed, the reverse is true. Studies have shown that the left hemisphere controls our ability to talk, write and do mathematics, speech, memory and reasoning, while the right is concerned with spatial judgements.

Neuro-science

Human brain is said to be the wonder of wonders. Much has been discovered yet unimaginably more remains to be explored. As a neuro-scientist has put it, "In many respects, brain is a vast unexplored continent-with little more known than the rough outlines of its shores". The interior of this continent holds within itself the mysteries which perhaps future epochs of more advanced civilizations would attempt to unfold.

The functions of the Brain

A new science has emerged - Neuroscience which aims at exploring the brain functions in thought, memory and consciousness. It is assumed that by understanding how individual

neurons work, we can understand how the brain itself functions and how the brain receives and stores information. Learning and memory are twin mysteries. It is difficult to explain the process of learning and remembering. There is no known basis of learning. Anatomically there is no specific learning centre in the brain. But learning does occur.

Perhaps the protein content of the neurons has something to do with learning. Intensive mental activity - learning-increases brain proteins and protein synthesis - the creation of complex molecules. The more complex the molecules, the better the brain. Conversely better learning develops the brain's capacity to learn. But over-learning is of no use as it does not produce any higher level of substances. Protein content is very likely to be helpful to better and quicker learning and remembering. So literally brain develops as a result of mental activity which in turn makes better learning and better memory possible.

Some Other Characteristics of brain's functioning

1. The amount of information flooding in on the brain is staggering; to cope with it, the brain selects the relevant and ignores the rest.

2. Attention is specific. If we put radio on and attempt to read at the same time, we can concentrate on the song or the book, but not on both. On the other hand, in case we become absorbed in a particularly good novel, we shouldn't be surprised if we don't remember hearing our favorite musical passage.

3. Most researchers agree that the limbic or feeling brain

plays a key role in learning and remembering. Interest in learning or the keen desire to learn greatly facilitates learning and improves memory. The limbic system is concerned with affection. Strong emotional experiences we remember almost without effort.

4. Brain is like an old storehouse containing moments, sense perceptions or experiences of a life time. A tickle of electricity in one place may make us see or hear a long forgotten face or tune.

5. Although all pain is felt in the brain, the brain itself has no pain sensation. Brain surgery is performed while the patient is wide awake.

6. Memory is an outstanding feature of the brain. Remembering or recall is only one aspect of memory - the ability of the brain to preserve and retain the experiences or sense perceptions.

7. Brain is the seat of mind which has three levels---conscious, sub-conscious and unconscious.

8. Brain's functioning can be tempered with by means of certain chemical preparations.

Memory

What is Memory?

Memory is the ability not only to store but also to recall information and experiences. Memory appears to be ' delocalized' - spread through-out the cortex and perhaps through-out the higher brain. Experiments and observations support a three-level theory of memory:-

a. The lowest level is short- term memory lasting nomore than a few seconds; every moment of life, hundreds of sensory impressions flow into the human brain and are promptly forgotten.

b. At the next level is the medium-term memory whichlasts from a few minutes to a few hours and enables man to remember something like a telephone number or some data for an examination.

c. At the highest level, is long - term memory, which means sifting out of all the sundry impressions and information entering the brain and processing and preserving only the things possessing importance, usefulness or vividness.

Long-term memory takes time to strike roots in the brain. If rats are given an electric shock immediately after learning a new skill, memory of the skill is lost. if the shock is delayed for half an hour, the memory is impaired but if 24 hours lapse between the learning and the shock, most of the memory remains. (Hence to reinforce new learning a better approach seems to be to revise it after some time, not immediately after the process).

Most researchers agree that the limbic or feeling brain plays a key role in long-term memory. Interest in learning-motivation, intense desire to learn - greatly improves the long-term memory, the ability to recall past learning experiences. The limbic system is concerned with affects. Strong emotional experiences we remember almost with out any effort. How to remember better

Memory plays an important part in the process of learning as new learning is built up on what you have learnt before. Moreover for purposes of examination too, the ability to recall and reproduce is of immense practical value. So as a learner and as an examine remembering is a matter of immediate concern to you. Before we give you some hints on how to remember well, you had better keep the following findings about memory in mind:-

a. Memory means the power of retentivity - the capacity to retain the learning experiences in the mind.

b. There is a specific centre of memory in the brain which serves as a vast systemically laid out store-house of all experiences since your birth.

c. Some of these experiences you can easily recall in vivid detail: this is called remembering or recall.

d. Some experiences may fail to recall fully when you want to do so; all the same you are dimly aware that it is in your mind all right. As soon as the thing is presented or you come across it, you at once recognize it. This is called recognition. Recognition helps in new learning and makes the re-learning of the oldlessonsmuch easier. Some people

naturally have very vivid reproductive memory, this is called graphic memory.

e. For examination purposes, the full recall memory is good.

f. Memory is selective. It remembers the important and relevant experiences. The rest are consigned to oblivion.

g. Pleasant experiences tend to be retained and remembered and unpleasant ones forgotten.

h. All intensely felt experiences are remembered much longer.

j. An experience which is shocking, terrible or most fearsome is called a "trauma" in psychology. All traumatic experiences especially those of childhood are forgotten consciously, but they are kept alive in the unconscious memory and go on influencing the attitudes and behaviour of a person. Grossly irrational attitudes in grown ups can be traced back to traumatic experiences in childhood.

Memory has a physiological basis. Some people's brains have far greater retentivity and the power of recall than others. This variation in the capacity to remember is natural. It can-not be improved. But what is good for brain is good for memory too. Good health and energy pep up all mental functions including memory. On the otherhand disease, ill-health and drugs can impair memory as they have a damaging effect on the mind as a whole.

The Process of Memory
How memory functions

There are three well-marked stages. (i) Learning or experiencing or acquisition of knowledge is stage one. This learning experience leaves some impressions on the brain paths. (ii) The impressions are stored in the mind. (iii) The third stage is that of recall - commonly called remembering.

How to remember well

What is learnt well makes deeper impressions on the brain paths and is likely to be remembered longer and better. The mind retains a more vivid picture or image of such experience and will project it easily and clearly before the mind's eye in future. Hence motivated learning, learning done with keen interest and purpose, is easy to recall.

Permanent retention of material which has been learnt can be aided by revisions which are repeated after progressively increasing intervals of time.

Mind is not a dead, non-living store-house where experiences are stored in isolation from each other. Ideas are living things. Each new experience, new piece of learning, must become associated with other relevant experiences to form a system. Only then it can be retained well and recalled well.

The secret of good memory is the secret of diverse and multiple associations with every fact we care to retain.

The one who thinks over his experiences most and weaves them into systematic relations with each other, will be the one with the best memory. Constantly going over the learned material, comparing and making it a series, help memory to retain it better.

Why is it necessary to weave new learning into existing thought-chains? because, in a system every fact is connected with every other by some thought relation. The consequence is that every fact is retained by the combined suggestive power of all other facts in the system.

Better remembering is the result of better thinking or of better understanding a problem, a fact or an idea. So try to secure knowledge first hand, make a mental effort in solving an equation and you will remember it better.

No impression without expression is a well-known maxim. The habit of note-taking and judiciously-spaced revisions of the learned material, making it easier for you to recall it at the time of examination.

If you know the correct methods of reading books, this will help you in remembering the desired material better.

Some-times you have to learn certain facts - poems, formulae etc. by heart, and you want to recall them verbatim in the class room and in the examination. In that event, you had better use the 'whole-method' rather than the 'part method' of committing things to memory and before doing so try to fully understand the meaning of the content. It is far easier and better to cram intelligently than otherwise.

The reason why cramming is such a bad mode of study:

The father of modern psychology, William James, has this to say on the subject:-

"By cramming is meant that way of preparing for examination by committing points to memory during a few hours or days of intense application immediately preceding the final ordeal, little or no work having been performed during the previous course of term. Things learned thus in a few hours on one occasion, for one purpose, cannot possibly have formed many associations with other things in the mind. The brain processes are led into by few paths and are relatively little ables able to be awakened again. Speedy oblivion is the almost inevitable fate of all that is committed to memory in this simple way, whereas on the contrary the same material taken gradually day after day recurring in different context, considered in various relations, associated with other external incidents which are reflected on, grow into a system, form such connections with the rest of the mind's fabric, lie open to so many paths of approach that remain permanent possessions'.

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The race is not to the swift nor the battle to the strong.

Old•Testament

PART V

THE COLLEGE TEACHER

"The teacher if he is indeed wise, does not bid you enter the house of his wisdom, but rather leads you to its threshold."

(Khalil Jibran)

While in the college, you will remain in constant contact with the teachers. You should ask yourself: "What are they about? What are their purposes? How best to benefit from them?"

It may surprise you to know that the primary purpose of a college teacher, as opposed to a school teacher, is not transmitting a set body of knowledge to you. It is much more. For knowledge, which you may gain through your college professors, is not so much an end in itself as a means to an end which is wisdom and individual fulfilment. Wisdom has to go with the way you use knowledge to illuminate experiences and to decide on relevant issues and courses of action. This is essentially what you are required to do in whatever responsible position you may be in future.

The task of a college teacher is not to hand down pre-digested knowledge to you. Teaching is a means to learning; the end is self-learning. The teacher is there to create conditions for effective learning. Each teacher will have his special set of conditions that he has found helpful by experience in stimulating the imagination and arousing the sensibilities and curiosity of students. You should welcome a variety of approaches so that you may experience the full range of the processes through which learning is accomplished, there being no royal road to it.

Rarely in later life, will you find yourself in a situation like the one in the college, where competing ideas are sifted so that you are free to choose what seems meaningful and significant to you alone, to retain the kernel and throw away the chaff.

It is essential that you should be aware of the real function and value of your college teachers because to the degree that you understand and appreciate what the teacher is attempting to do, you can respond more efficiently and gain more from the teaching-learning situation. By the way, this process will be immensely facilitated if teachers and students know each other intimately.

One of the characteristics of a good teacher is his ability to lead the student to make his own discovery of principles, concepts and values. What attitudes and values are required on the part of the students? Have you any clear idea? Are you prepared to discover yourself and make your own discoveries of principles, concepts and values?

THE COLLEGE TEACHER AS A LEADER

We expect a lot of you. You should do the same. We have a check-list, as discussed earlier, to measure your progress in areas of development other than academics. You can also have one to test our mettle. We can afford an indifferent or dull sort of student because he may be the only one while others might be bright. But the students cannot afford an indifferent teacher because they have none else. A bad pupil only harms himself but a bad teacher harms the whole lot. Surely you should demand much more from your college teacher than mere possession of a master's degree in a subject. What is that much more' and what are the qualities of a good college teacher?

Perhaps you can draw up a long list of qualities yourself. But here is a synopsis of a most illuminating talk given to the fresh teachers by a veteran teacher. This may also give you the idea of the heights we ourselves are expected to touch.

"To succeed, a teacher must be a leader. A teacher will not succeed in arousing the student to think about the subject unless he thinks about it himself. Imitation remains by far the most basic transaction in the learning process. The most obvious qualities which the teacher ought to acquire are those which the teacher wants his pupils to possess. The learners will tend to imitate mostly unconsciously any good qualities he himself manifests. The teacher should be pretty good indeed in the art of communication, both verbal and written. Skill of creative writing is an added asset but the ability of critical thinking is a must. No student likes a teacher who depends too much on text books and notes, and lacks originality of approach. You are a leader in the field of your

choice. So a complete mastery of your chosen branch of knowledge can not be exchanged for any other quality.

"Any teacher worth the name must have a strong sense of moral values. A teacher who does not at the same time educate, fails to teach as well. Learning to teach successfully is learning to lead towards the stimulus of distant future. Go on learning as long as there is life in you. If you do not want your teaching to degenerate into a make-believe, do not make the mistake of turning your own learning into a make-believe. *A zest for learning is most contagious and is bound to envelope your students, sooner or later.*

"Moreover, some planned objective must be there before you. As a teacher, have a five year study plan, a summer vacation study plan, in fact a life study-and-creative-work-plan. You may not quite come up to it in the end, but you would certainly have made much more contribution, had you been without one. Remember the story of a genius who started as a young boy to read all the books in the world. He did not. *But he ended up as a great scholar all the same. The will to scholarship is a student's most valuable asset.*

"A truly educated man respects learning in all fields of knowledge. Any scholar who confines his studies to his own field alone hinders his progress in the field of his choice and becomes remote from his students.

Student's tend to be idealists. They demand perfection from their parents and teachers. They will never accept a teacher who is anything but the best and will never forgive a teacher or a

parent who betrays the same weakness which they themselves have. A teacher's battle (for survival) is won or lost mainly, but not necessarily in the class-room.

Students may make wrong judgements, but they never miss genuine scholarship; *being extraordinarily canny,* they at once detect the phoney."

So much about teachers by a teacher. Now you can make your own check-list to arrive at a balanced assessment of your teachers who certainly do not claim to be angels.

Self Image

You are
What
You will yourself to be

In the great kingdom of mind
You fashion
In the precious mould of thoughts
The motive power
That shapes
Your destiny

For
What you think
Is
What you will become

The will
Is
Never dumb

Remember
When
Your life
You plan
What has been wisely said of man
'This I can
If I think
I can'